



# **STIC Search Report**

## **EIC 2100**

**STIC Database Tracking Number: 132508**

**TO: Michael Holmes**  
**Location: 5A49**  
**Art Unit: 2121**  
**Monday, November 01, 2004**

**Case Serial Number: 09/674,468**

**From: Anne Hendrickson**  
**Location: EIC 2100**  
**PK2-4B40**  
**Phone: 308-7831**

**Anne.Hendrickson@uspto.gov**

### **Search Notes**

Michael – Attached are results from an NPL search of the above referenced case. Please take a look at the search terms that I used and let me know if you would like for me to take another approach. I included some info on Compudigm, which appears to be the New Zealand assignee.

Anne

?show files  
File 256:TecInfoSource 82-2004/Jul  
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Set	Items	Description
S1	870	NEUR? ()(NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MAT- CH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()LI- NEAR()PROCESS?
S2	288	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR (GAME OR - SLOT)()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()J- ACK
S3	2412	PREDICT? OR FORECAST? OR SPECULAT? OR PROGNOSTICAT?
S4	4046	MONEY? OR MONETARY OR WINNINGS OR REVENUE OR CURRENCY OR - PROCEEDS OR INCOME OR PROFIT OR RECEIPTS OR PAYOUT?
S5	1	S1 AND S2 AND S3 AND S4
S6	9789	DATABASE? OR DATA()BASE? OR DATA (2N) (WAREHOUS? OR WARE(- )HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR DAT- ABANK? OR DATA()BANK? OR DATAFILE? OR DATA()FILE? OR RDBMS OR RDB OR RDBM OR OODB OR O()O()D()B OR R()D()B()M
S7	1	S1 AND S2 AND S6

5/9/1

5/9/1

DIALOG(R)File 256:TecInfoSource  
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00131392 DOCUMENT TYPE: Review

PRODUCT NAMES: **seePOWER** (053244)

TITLE: **The Gestalt of Data: Neugents, Visualization Analyze Data and...**

AUTHOR: Ploskina, Brian

SOURCE: Interactive Week, v8 n24 p42(2) Jun 18, 2001

ISSN: 1078-7259

HOME PAGE: <http://www.interactive-week.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

Neugents and visualization technology are helping companies modify their business processes and anticipate system problems. Harrah's Entertainment, which operates 21 casinos in the U.S., uses Compudigm International's **seePOWER** visualization technology to track **slot machine** use. Machines are tied to a single database, allowing the technology identify specific machines, track how much **money** machines bring in, and track how often specific machines are used. In turn, this allows Harrah's to arrange **casino** layouts to promote traffic. Ford Motor also uses visualization technology. Tapping Information Builders' software, Ford simplifies warranty data analysis and defines potential advertising campaigns based on customer profiles. Finally, organizations are using **neural network** agents, or neugents, to track and **predict** behavior. For example, New Scotland Yard uses neugents to **predict** criminal activity, analyzing a range of data. Neugents are similar to **artificial intelligence**, in that they refine processing over time. Neugents are useful in the commercial world, where they can **predict**, for example, Web site outages. Preventing such outages can save companies millions of dollars in lost **revenue**. Neugent and visualization technology must tap clean data to be effective.

COMPANY NAME: Compudigm International Ltd (704229)

SPECIAL FEATURE: Charts

DESCRIPTORS: **Gambling** & Gaming; Manufacturing; Police Departments;  
Software Agents; User Interfaces

REVISION DATE: 20020630

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Set	Items	Description
S1	882	NEUR? () (NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MA- TCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()- LINEAR()PROCESS? OR NEUGENT?
S2	482	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR GAMING OR (GAME OR SLOT) ()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	19	S1 AND S2
S4	18	S3 NOT PY>1999

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Set	Items	Description
S1	256	COMPUDIGM AND (CASINO OR GAMBLING OR BETTING? OR BET OR BE- TS OR GAMING OR (GAME OR SLOT) ()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK)
S2	3	S1 NOT PY>1999

?show files

File 9:Business & Industry(R) Jul/1994-2004/Oct 27  
(c) 2004 The Gale Group

File 13:BAMP 2004/Oct W3  
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File 397:Las Vegas Review-Journal 1997-2004/Oct 29  
(c) 2004 Las Vegas R-J

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(c) 2004 Thomson Financial Networks

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(c)2004 Knight Ridder/Tribune Bus News

File 609:Bridge World Markets 2000-2001/Oct 01  
(c) 2001 Bridge

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(c) 2004 Fin. Times Ltd

File 621:Gale Group New Prod.Annou.(R) 1985-2004/Nov 01  
(c) 2004 The Gale Group

File 622:EIU Magazines 2000-2004/Mar 20  
(c) 2004 EIU Magazines

File 629:EIU:BUS. Newsletters 2004/Oct W3  
(c) 2004 Economist Intelligence Unit

File 635:Business Dateline(R) 1985-2004/Oct 30  
(c) 2004 ProQuest Info&Learning

File 636:Gale Group Newsletter DB(TM) 1987-2004/Nov 01  
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File 649:Gale Group Newswire ASAP(TM) 2004/Oct 25  
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File 654:US Pat.Full. 1976-2004/Oct 28  
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File 755:New Zealand Newspapers 1995-2004/Oct 31  
(c) Fairfax New Zealand Ltd.

File 759:Reuters Business Insight 1992-2004/Oct  
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File 991:NewsRoom 2004 Jan 1-2004/Jun 30  
    (c) 2004 The Dialog Corporation  
File 992:NewsRoom 2003  
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File 993:NewsRoom 2002  
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File 994:NewsRoom 2001  
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File 995:NewsRoom 2000  
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?t s2/9/3

2/9/3 (Item 1 from file: 755)

DIALOG(R) File 755:New Zealand Newspapers

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00481052 ITW9912134021-NTGISS-BS (THIS IS THE FULLTEXT)

**Wellington's Compudigm wins Aussie casino deal**

TROW Richard

NZ INFOTECH WEEKLY , 2 ed, p2

13 DEC 1999

JOURNAL CODE: ITW RECORD TYPE: FULLTEXT

WORD COUNT: 00000432

TEXT:

WELLINGTON geographical information company **Compudigm** International has just won a "substantial" order to supply software to an Australian **casino**

Managing director Craig Soper says the deal is just one part of the company's overseas drive, which is expected to boost staff numbers from 22 to 100 worldwide in two years.

By the end of 2001, **Compudigm** , which produces data mapping software for the retail and **gaming** industries, will have offices in "key markets" -- Australia, America and Europe, he says.

The company expects to open its first overseas branch in Las Vegas early next year.

Mr Soper will not disclose the value of the **casino** order.

The **casino** will use the system to amass and analyse data on the layout of the building and on punters' **betting** habits.

"Every button pushed in a **casino** is measured. Casinos can track which parts of the building are the best places to put the (pokey) machines and what jackpot to make them," Mr Soper says.

Meanwhile, **Compudigm** has used its expertise to develop a bulk-mailing tool for the New Zealand market.

The tool, called Postcode Allocator, combines spatial technology with fuzzy search logic to automatically apply four-digit postcodes to postal addresses held in a database.

The technology will save customers between 5c and 28c for each mailed envelope, says Mr Soper.

He says it is the only known address validation in the world capable of matching the 95 per cent accuracy level set by New Zealand Post.

"We ran a test for an Australian geographical information system company . . . and in 10,000 records we got 53 per cent using a mainstream geocoding tool and 94 per cent using our system."

Geocoding adds map coordinates to an address.

The fuzzy search allows mailing records to be "cleaned" and addresses added easily, he says.

"All (companies) do is give us addresses without names and we run them through the system. We can process tens of millions of records a day." He says the system pays for itself on the first mail run.

Another benefit is being able to tag addresses held in a database with census information.

**Compudigm** 's first buyer for the tool is the New Zealand Fire Service, which will use it to geocode 400,000 fire incident records, enabling the service to analyse fires and callouts by location.

**Compudigm** 's customers in New Zealand include the Ministry of Fisheries.

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LANGUAGE: ENGLISH

SECTION HEADING: NEWS; NATIONAL

COMPANY NAMES (DIALOG GENERATED): **Compudigm** International ; Ministry of Fisheries ; New Zealand Post

DESCRIPTORS: **GAMBLING** ; WELLINGTON CITY

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Set	Items	Description
S1	751774	NEUR? () (NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MATCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()-LINEAR()PROCESS? OR NEUGENT?
S2	178868	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR GAMING OR (GAME OR SLOT)()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	1095191	DATABASE? OR DATA()BASE? ? OR DATA (2N) (WAREHOUS? OR WARE()HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR D-ATABANK? OR DATA()BANK? OR DATAFILE? ? OR DATA()FILE? ? OR RD-BMS OR RDB OR RDBM OR OODB OR O()O()D()B OR R()D()B()M
S4	71	S1 AND S2 AND S3
S5	62	RD (unique items)
S6	55	S5 NOT PY>1999
S7	3372856	PREDICT? OR FORECAST? OR SPECULAT? OR PROGNOSTICAT?
S8	5	S6 AND S7
S9	1745201	MONEY? OR MONETARY OR WINNINGS OR REVENUE OR CURRENCY OR - PROCEEDS OR INCOME OR PROFIT? ? OR RECEIPTS OR PAYOUT? OR CHIPS
S10	3	S6 AND S9
S11	64	S1 AND S2 AND S9
S12	7	S11 AND S7
S13	7	S12 NOT (S10 OR S8)

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13/9/2 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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7882411 INSPEC Abstract Number: C2004-04-7820-009

**Title: An artificially intelligent sports tipper**

Author(s): McCabe, A.

Author Affiliation: Sch. of Inf. Technol., James Cook Univ., Townsville, Qld., Australia

Conference Title: AI 2002: Advances in Artificial Intelligence. 15th Australian Joint Conference on Artificial Intelligence. Proceedings (Lecture Notes in Artificial Intelligence Vol. 2557) p.718

Editor(s): McKay, B.; Slaney, J.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 2002 Country of Publication: Germany xv+730 pp.

ISBN: 3 540 00197 2 Material Identity Number: XX-2002-03892

Conference Title: AI 2002: Advances in Artificial Intelligence. 15th Australian Joint Conference on Artificial Intelligence. Proceedings

Conference Date: 2-6 Dec. 2002 Conference Location: Canberra, ACT, Australia

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: Summary form only given. A description of an artificially intelligent model for **predicting** the outcome of particular sporting contest is described. Many participants in these contests have developed their own systems (computerised or otherwise) with which they select winners. The work described here is an attempt to extract insightful information from sporting contests in an effort to make objective **predictions** about likely winners. It is not meant as an aid to **gambling**, but rather an interesting case study of using **neural networks** for **predicting** probabilistic events in a sporting scenario. Several model structures and learning algorithms were examined during the experimentation phase, with the most successful model found to be a three-layer perceptron learning via the back-propagation algorithm. Experimentation was also done with differing numbers of layers and hidden units and an arrangement consisting of nineteen input units (one unit for each feature), ten hidden units and a single output unit was found to be the most robust. The features used consisted of details such as points scored, points against, position on league ladder, home ground advantage, winning percentage etc. Results also included a study of which features were most useful, along with an investigation of different **betting** strategies and the amount of **money** this system would have potentially won if it was placing **bets** at a sports **betting** outlet during the season.

Subfile: C

Descriptors: backpropagation; multilayer perceptrons; sport

Identifiers: artificially intelligent sports tipper; sporting contest; **neural network**; probabilistic event; three-layer perceptron learning; back-propagation algorithm; points scored; percentage win; **betting** strategy; sports **betting** outlet

Class Codes: C7820 (Humanities computing); C5290 (Neural computing techniques)

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Set	Items	Description
S1	752480	NEUR? ()(NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MATCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()-LINEAR()PROCESS? OR NEUGENT?
S2	178925	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR GAMING OR (GAME OR SLOT)()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	1096404	DATABASE? OR DATA()BASE? ? OR DATA (2N) (WAREHOUS? OR WARE()HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR D-ATABANK? OR DATA()BANK? OR DATAFILE? ? OR DATA()FILE? ? OR RD-BMS OR RDB' OR RDBM OR OODB OR O()O()D()B OR R()D()B()M
S4	1107	S1 AND S2
S5	585	S4 AND S1/TI,DE
S6	159	S5 AND S2/DE,TI
S7	125	S6 NOT PY>1999
S8	109	RD (unique items)
S9	1820276	MONEY? OR MONETARY OR WINNINGS OR REVENUE OR CURRENCY OR -PROCEEDS OR INCOME OR PROFIT? OR RECEIPTS OR PAYOUT? OR CHIPS
S10	4	S8 AND S9

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?t s10/5/1,2

10/5/1 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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02794608 E.I. Monthly No: EIM8909-032965

**Title: Betting , bribery, and bankruptcy - a simulated economy that learns to predict.**

Author: Kaehler, Ted; Nash, Hadon; Miller, Mark S.

Corporate Source: Apple Computer, Cupertino, CA, USA

Conference Title: Compcon '89: Thirty-Fourth IEEE Computer Society International Conference

Conference Location: San Francisco, CA, USA Conference Date: 19890227

E.I. Conference No.: 12357

Source: Digest of Papers - IEEE Computer Society International Conference. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. Available from IEEE Service Cent (cat n 89CH2686-4), Piscataway, NJ, USA. p 357-361

Publication Year: 1989

CODEN: DCSIDU ISBN: 0-8186-1909-0

Language: English

Document Type: PA; (Conference Paper) Treatment: T; (Theoretical)

Journal Announcement: 8909

**Abstract:** Derby is a collection of independent computational entities that exchange **money** for work and information in the course of solving some problem. The key to building an agoric system is to design a **monetary** incentive structure that forces the individual entities to cooperate and work on the user's problem. While building Derby the authors discovered that it is very useful to think of the entities as being opportunistic and uncooperative. In Derby, information is traded in marketplaces, with sellers issuing predictions and placing **bets** on their correctness at predicting incoming data streams. Buyers submit bids of how much they are willing to pay for each dollar of **bet** placed. A sealed-bid second-price double auction determines which bidders are accepted. Later, the buyers report how happy they were with the information they bought, and this determines each seller's **winnings** in the parimutuel **betting** pool. 5 refs.

Descriptors: ECONOMICS--\*Computer Simulation; **ARTIFICIAL INTELLIGENCE**

Identifiers: COOPERATIVE PROBLEM SOLVING; **MONETARY INCENTIVE; DERBY;**

**BETTING**

Classification Codes:

911 (Industrial Economics); 723 (Computer Software)

91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING)

10/5/2 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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6200427 INSPEC Abstract Number: C1999-05-1230L-005

**Title: An on-line prediction algorithm combining several prediction strategies in the shared bet model**

Author(s): Tajika, I.; Takimoto, E.; Maruoka, A.

Author Affiliation: Graduate Sch. of Inf. Sci., Tohoku Univ., Sendai, Japan

Journal: IEICE Transactions on Information and Systems vol.E82-D, no.2 p.348-55

Publisher: Inst. Electron. Inf. & Commun. Eng,

Publication Date: Feb. 1999 Country of Publication: Japan

CODEN: ITISEF ISSN: 0916-8532

SICI: 0916-8532(199902)E82D:2L.348:LPAC;1-2

Material Identity Number: P713-1999-003

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

**Abstract:** One of the most important problems in machine learning is to predict a binary value by observing a sequence of outcomes, up to the present time step, generated from some unknown source. Vovk (1990) and

- Cesa-Bianchi et al. (1993, 1997) independently proposed an online prediction model where prediction algorithms are assumed to be given a collection of prediction strategies called "experts", and hence are allowed to use the predictions they make. In this model, no assumption is made about the way the sequence of bits to be predicted is generated, and the performance of the algorithm is measured by the difference between the number of mistakes it makes on the bit sequence and the number of mistakes made by the best expert on the same sequence. In this paper, we extend the model by introducing a notion of "investment". That is, both the prediction algorithm and the experts are required to make **bets** on their predictions at each time step, and the performance of the algorithm is now measured with respect to the total **money** lost, rather than the number of mistakes. We analyze our algorithms in the particular situation where all the experts share the same amount of **bets** at each time step. In this shared **bet** model, we give a prediction algorithm that is in some sense optimal but impractical, and we also give an efficient prediction algorithm that turns out to be nearly optimal. (8 Refs)

Subfile: C

Descriptors: binary sequences; error statistics; investment; learning ( **artificial intelligence** ); minimax techniques; online operation; prediction theory

Identifiers: online prediction algorithm; prediction strategies; shared **bet** model; machine learning; binary value prediction; outcome sequence; experts; bit sequence generation; algorithm performance measurement; mistakes; investment; **monetary** loss; optimal algorithm; minimax strategy; weighted majority algorithm

Class Codes: C1230L (Learning in AI); C1290D (Systems theory applications in economics and business); C1260 (Information theory); C1140Z (Other topics in statistics); C1180 (Optimisation techniques)

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Set	Items	Description
S1	133249	NEUR? ()(NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MATCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()LINEAR()PROCESS? OR NEUGENT?
S2	126003	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR GAMING OR (GAME OR SLOT)()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	199030	DATABASE? OR DATA()BASE? ? OR DATA (2N) (WAREHOUS? OR WARE()HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR DATABANK? OR DATA()BANK? OR DATAFILE? OR DATA()FILE? OR RDBMS - OR RDB OR RDBM OR OODB OR O()O()D()B
S4	2574	S1 AND S2 AND S3
S5	333	S1(S)S2(S)3
S6	150169	MONEY? OR MONETARY OR WINNINGS OR REVENUE OR CURRENCY OR - PROCEEDS OR INCOME OR PROFIT? OR RECEIPTS OR PAYOUT?
S7	74	S5 AND S6
S8	22	S7 AND IC=G06F?
S9	1276430	METER? OR IDENTIFIER? OR ID OR IDS OR NUMBER? OR NUMERAL? - OR CODE OR CODES OR CODING OR DESIGNATOR? OR DESIGNATION? OR - VALUE?
S10	144	S5 (S) S9
S11	26	S10 AND IC=G06F?
S12	9	S11 NOT S8

?show files

File 348:EUROPEAN PATENTS 1978-2004/Oct W03

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File 349:PCT FULLTEXT 1979-2002/UB=20041028,UT=20041021

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?t s8/3,ae,k/4,8,12,16,19,20,21

8/3,AE,K/4 (Item 3 from file: 349)  
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00966467

**GAMING MACHINES AND SYSTEMS OFFERING SIMULTANEOUS PLAY OF MULTIPLE GAMES  
AND METHODS OF GAMING  
MACHINES DE JEU ET SYSTEMES OFFRANT UNE PARTIE SIMULTANEE DE MULTIPLES JEUX  
ET PROCEDES DE JEUX**

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200299760 A2-A3 20021212 (WO 0299760)  
Application: WO 2002US16514 20020524 (PCT/WO US0216514)  
Priority Application: US 2001872489 20010601

Designated States:

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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ  
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG.SI  
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR  
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW  
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Publication Language: English

Filing Language: English

Fulltext Word Count: 21431

**English Abstract**

Gaming apparatus and methods of conducting a wagering game of chance. A gaming machine is disclosed which is configured for mutually concurrent play of a plurality of games of chance on a single display screen. A method of conducting a wagering activity includes providing a player with a plurality of differing games of chance, at least some of which are mutually concurrently playable on a single screen display of a gaming device and enabling mutually concurrent play of the plurality of differing games of chance on the single screen display. Various other gaming machine configurations and methods of play related to multiple differing games of chance on a single display screen are also disclosed herein. Networked gaming machines are also disclosed.

International Patent Class: **G06F-017/60**

Fulltext Availability:

Detailed Description

**Detailed Description**

... to other available gaming options, as well as the likelihood (or perceived likelihood) of winning, **money** at the machine. As a result, casino operators are constantly looking for ways to enhance the entertainment value and perceived payoff values of the game... the fullest extent possible.

100041 Slot machines, while typically among the most lucrative sources of **income** for a casino, are one ... 44, 46 and diagonal paylines 48, 50. Upon the deposit of an appropriate amount of **currency** recognized by slot machine, 20, one or more of the paylines ... increases his chances for achieving a winning combination while at the same time betting more

money .

100081 In further efforts to make slot play more attractive to casino patrons, systems have...of togetherness" created by tlhe networked system attracts more players and consequently brings about more, **profit** - to the owner -of the slot machine.

t players prefer to play several slot  
[0009...and exciting game variations and attractive enhancements. In addition, casino operators constantly strive to increase **profits** by maximizing available floor space. Accordingly, there exists a need in the art for new...of wagering may be involved and that players inay malzo wagers of value, 'whether actual **currency** or some curAreficy equivalent, e.g., token ...refers to a ga -me architecture wherein, once a game is in play, the play **proceeds** to an outcome which, during play, is unaffected by play or an outcome of another...be played. One or more credit meters 84 are also provided to keep track of **currency** available for wagering. The credit meters 84 may be electronically displayed on a portion of...of gaming machine 70 clearly visible to a player. A coin tray 86 or other **payout** component as is known in the art is also included as an element of gaming...L  
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Credited to...I 10 to display the game outcome(s).

1,011 01:,, With reference to FIG. 3 , during "play" of she selected  
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microprocessor II 0 of **gaming** machine 70 randomly generat@,%s nurnbers representing the ganding indicia app'ropriate for each seleded...outcome indicica on s; gle lzscreen disphq T.` ii d. d,@A)3n.-rul  
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Mbi@:i...outcomes at no additional cost to the player (i.e., without the input of additional **currency** or the wagering of ...In an additional aspect of the embodinient,, a gaining machine 70 is configured with a **payout** scheme that uses an internal progressive based on simultaneous, sequential or random play of multiple...186b of each player. In ihis embodiment, the, input of  
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4LrAs of casino-recognized **currency** into gaming machine 170 may similarly -inure to the benefit of each of the players...t(') -@M-h tnufe tournarnent wins-,  
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Ir  
ilar **payout** scheme may result in an aspect of the pr3sent enibodiment wherein the,  
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8/3,AE,K/8 (Item 7 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00781896

**CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM AND METHOD**  
**SYSTEME ET PROCEDE DE GESTION DE LIENS ENTRE CLIENTS**

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Patent and Priority Information (Country, Number, Date):

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Application: WO 2000NZ164 20000821 (PCT/WO NZ0000164)

Priority Application: NZ 337370 19990820

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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE  
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT  
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM  
TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

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(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

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English Abstract

The invention provides in one form a customer relationship management system comprising a memory in which is maintained an interaction database of interaction data representing interactions between customers and merchants; retrieval means arranged to retrieve, based on a set of criteria, a promotional group subset of the customers stored in the interaction database; a promotion analyser arranged to retrieve from the interaction database data representing interactions involving customers in the promotional group; and display means arranged to display a representation of the retrieved interaction data. The invention also provides a related method and computer program.

Main International Patent Class: G06F-017/60

Fulltext Availability:

Claims

Claim

... station in one or more geographic locations. The merchant may alternatively operate a wagering or **betting** service, or operate a **casino** or other **gaming** facility in which a number of **gaming** machines and stations are positioned in one or more rooms at a common venue. The

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...business from existing customers and also to attract new customers.  
Referring to 1 5 Figure 3 , a preferred form of the invention permits a user to define a campaign, indicated at...po-uajaid at1L -dnoiO  
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z),ql...

...The query panel in Figure 6 allows the user to specify the average amount of **money** spent per visit by the customer of interest. The categories could be, for example, less...

...the promotional group must spend between \$10 to \$50 on average per visit at the **casino** . The group summary panel in Figure 7 is updated to reflect this information and the...

*applicant?*

...may specify in the query panel the average number of times individual customers visit the **casino**. The categories could be, for example, once a year, once every six months, once every...

...topographical map of the region. The preferred map is centred around the location of the **casino** with areas defined as concentric circles centred on the **casino**, further divided into quadrants. The user may select one or more areas in the vicinity of the **casino** by clicking in the area of interest. This selects customers who reside in a particular pu-e fiouiam M paiols KTq-eiajaaid axe su&ed= 3 ailL -u2Ted=z) oql ioj sajup pua pue 2u-ruuT2aq aTqj aldrauxa ioj 'sTrepap TaT4lo...

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...the control group indicated at 502. Panels 500 and 502 show the layout of individual **gaming** machines, one of which is indicated at 504. Using customer identifiers as primary keys, the...

...from memory. This data could include, for example, dates and times of visits to the **casino** and details of individual transactions. This data is superimposed on the spatial representation of the **casino** shown in panels 500 and 502. The preferred system represents these financial details as contours around or adjacent to individual **gaming** machines. The example provided in Figure 13, for example, contours the information based on net **revenue**. This net **revenue** could be obtained by the sum of the total **money** spent by individual customers at the **casino** during the period of interest. The **revenue** for each machine is preferably graphically represented adjacent or near to the representation of the individual machine. There are a finite number of machines in the **casino**, and the individual revenues generated from each machine represent a finite set of data values...

...the representations 500 and 502. The preferred representations are colour-coded and the value of **revenue** of each machine is illustrated by representing the corresponding data points in the appropriate colour to represent the correct value of **revenue** of each machine. The areas of the representations 500 and 502 around each data point...

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8/3,AE,K/12 (Item 11 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00749783

**METHOD AND APPARATUS FOR MONITORING CASINOS AND GAMING**

**PROCEDE ET APPAREIL DE CONTROLE DE CASINOS ET DE JEUX**

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FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU  
LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT  
TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 21798

**English Abstract**

A system automatically monitors playing and wagering of a game, including the gaming habits of players and the performance of employees. A card deck reader automatically reads a symbol from each card in a deck of cards before a first one of the cards is removed. The symbol identifies a respective rank and suit of the card. A chip tray reader automatically images the contents of a chip tray, to periodically determine the number and value of chips in the chip tray, and to compare the change in contents of the chip tray to the outcome of game play for verifying that the proper amounts have been paid out and collected. A table monitor automatically images the activity occurring at a gaming table. Periodic comparison of the images identify wagering, as well as the appearance, removal and position of cards and other game objects on the gaming table. A drop box automatically verifies an amount and authenticity of a deposit and reconciles the deposit with a change in the contents of the chip tray. The drop box employs a variety of lighting and resolutions to image selected portions of the deposited item. The system detects prohibited playing and wagering patterns, and determines the win/loss percentage of the players and the dealer, as well as a number of other statistically relevant measures. The measurements provide automated security and real-time accounting. The measurements also provide a basis for automatically allocating complimentary player benefits.

...International Patent Class: G06F-003/14 ...

... G06F-019/00

Fulltext Availability:  
Detailed Description  
Claims

#### French Abstract

...et une comptabilite en temps reel. Les mesures constituent egalement une base pour attribuer les **profits** complementaires des joueurs.

#### Detailed Description

... forms of gaming are a multi-billion dollar, world-wide industry. Typically, a customer exchanges **currency** or some form of credit for a casino's chips. The customer places the chips...

...of each game slightly favor the casino, so on average the casino wins and is **profitable** .

Like many businesses, casinos wish to understand the habits of their customers. Some casinos have...

...or providing additional training to an inefficient dealer.

The fast pace and large sums of **money** make casinos likely targets for cheating and stealing. Casinos employ a variety of security measures...as is explained in detail below. Players 14, 16 are issued chips in exchange for **currency** or credit by the casino's tellers. Casino's typically require the use of chips 22 for wagering, rather than actual **currency** . A player 14 can chose to play multiple hands by placing more than one wager...

...game, the dealer 12 collects the wager chips 22 from losing players and pays out **winnings** in chips to the winning players. The **winnings** are calculated as a multiple of a set of odds for the game and the...

...that takes the form of a chip tray 36. The dealer 12 pays out the **winnings** using the required number of chips 38 from the chip tray 36. The chip tray...

...contain different value chips. Changes to the contents of the chip tray 36 represent the **winnings** and loses of the casino ("house") at the gaming table 10.

Thus, maintaining an accurate...

...casinos permit the dealer 12 to exchange chips for items 41 of value such as **currency** or other items at the gaming table IO. The dealer 12 deposits the item 41...Figure 3) to authenticate items 41 of value inserted into the drop box, such as **currency** and chips, and to automatically keep track of the denomination or value of those items... the drop box 40, and determines the denomination of those items 4 1, including chips, **currency** , and other items of value. The reference to "cash" is simply for convenience and is...the drop box 40 (Figure 1), and determining the denomination of those items, including chips, **currency** , and other items of value.

The processor/controller PCB 160 (Figure 14) executes the bank...

...of item 4 1.

If the DSP CPU 162 recognizes the item as U.S. **currency** , the DSP CPU 162 first determines an orientation of the item 41 in step 706...can be specific to the item type, for example, a one list for U.S. **currency** and another list for a foreign **currency** . The selection can be truly random, or can simply alternate among a number of defined...

...728. The security thread or band is a thin strip incorporate in the U.S. **currency** . If the DSP CPU 162 deten-nines that the security band is invalid, control again...

...a watermark.

If the item 41 of value is recognized as a piece of foreign **currency**, the DSP CPU 162 determines the item's orientation in step 730, and the denomination...

...valid. In step 744, the DSP CPU 162 examines other security features specific to the **currency** and determines whether those features are valid. In each case, control passes to step 718...

...valid. In step 756, the DSP CPU 162 examines other security features specific to the **currency** and determines whether those features are valid. In each case, control passes to step 718...and the dealer 12. In step 826, the gaming table CPU 52 checks the calculated **winnings** to be paid out and losses against the changes to contents of the chip tray... Thus, the financial performance of each gaming table 10 can be linked. For example, a **payout** for a winning player 14, 16 at one of a group of gaming tables 10...

...at the group of gaming tables. Thus, as time goes on the size of the **payout** increases,

Claim

... of the game play; and

48

automatically determining a respective amount of a number of **payouts** and takes based on the determined wagers and the determined outcome of the game play...

...bank after the game play and with the determined respective amounts of the number of **payouts** and takes.

40 The method of claim 37, further comprising:  
determining a value of a...

...bank after the game play and with the determined respective amounts of the number of **payouts** and takes; and producing a warning if the determined value of the bank at the table after the game play and the determined respective amounts of the **payouts** and takes fail to reconcile.

41 The method of claim 37 wherein determining an outcome...

...The method of claim 37 wherein automatically determining a respective amount of a number of **payouts** and takes based on the wagers and the outcome of the game play comprises:  
determining...

...by a set of odds if the wager won to determine the amount of the **payout**; and assigning the amount of the wager as the amount of the take if the... wagers made by a player during at least one game;  
automatically determining an amount of **winnings** for the player; comparing the amount of **winnings** for the player to a statistically predictable amount of **winnings** for the at least one game; and identifying a statistical aberration in the amount of **winnings**.

54 A method of detecting player wagering patterns at gaming tables, comprising:  
automatically determining an...

...on the gaming table;  
determining an outcome of the game play;  
determining an amount of **payouts** and takes for each of the wagers based on the determined amounts of the -wagers...

...value of the bank at the gaming table after the game  
play;  
reconciling the determined **payouts** and takes with the determined value  
of the bank prior to game play and the...comprising:  
monitoring a first wagering game for an outcome; and  
increasing an amount of a **payout** for a player of a second wagering game  
based on the outcome of the first...

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deck...

8/3,AE,K/16 (Item 15 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00576940

**GAMBLING GAME SYSTEM AND METHOD FOR REMOTELY-LOCATED PLAYERS**  
**SYSTEME ET PROCEDE DE JEU DE HASARD POUR JOUEURS DELOCALISES**

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Patent and Priority Information (Country, Number, Date):

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Priority Application: IL 127957 19990107

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GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA  
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA  
UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

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(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

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Publication Language: English

Filing Language: English

Fulltext Word Count: 11854

English Abstract

A gambling game system and method for remotely-located players. The system includes a central station (20) with a plurality of betting-type game devices, each involving an element of chance and with an electronic camera (52) for each game device; a plurality of player stations (30) remotely located with respect to the central station; and data processing means. Each player station includes a monitor (31) for displaying a selected game device at the central station and input means (32) for selecting a game device and for placing a bet. The data processing means establishes communication between the central station and each of the player stations, enables a player via the input means to select a game device at the central station, enables the player to see via the monitor what occurs at the selected game device and to place a bet via the input means, displays the action on the players monitor, determines whether the action, after it occurs, resulted in a win or loss of the placed bet, and maintains a current account for the player.



International Patent Class: G06F-017/00

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... indicate to the dealer that the player has finished playing and wishes to collect his **winnings** , if any.

Monitor 60 includes another area, generally designated 65, to display the credit available...the dealer's hand is not Ace-King or better, the player is paid even **money** on the ante and nothing on the bet. If the dealer's hand is better...

...his ante and the bet. If the player has a better hand, he receives a **payout** depending on the player's hand. There is also an optional independent side bet of...

Claim

... CASINOS MAIN SERVER

100

CAME C 24

COMPUTER

C

TABLE LACK GAMES

COMPUTER 5

TABLE

**ROULETTE** COMPUTER

**CASINO** N:1

FIGAA

32

3

30n-1

A- - - - -1

-----

-----

42 43

C 4 1

4 7

Li

::;;r @@ 44

2n...

...C. C. N.

CASINOS MAIN SERV

6C

8c

C

TABLE

13LAC COMPUTER

AC

COMPUTER 8@- **ROULETTE**

**CASINO** N: X

-----j

FIGAB

I 30VIDEO/AUDIO 31

DEALER'S CAMERA @67 MODEM 32

KEYBOARD...

...P 5

5TO

5 5 52a

10a

5 6

oe

51c

OTHER

TABLES is  
FIG. 3 D I  
c t  
3  
A  
3 9  
E9  
61 66 62 63  
CARD 64 65  
F-c-RE-D 1 T...

...FIG-6  
/21  
77  
I  
c  
FIG.7  
3c 1 0  
33 8 1 r  
- - - - - CASINO  
SERVER  
Lr  
80  
FIG,8A  
83 82  
0  
BET 84 AMOUNT 87  
1 i o WIN 85  
CREDIT  
F- 9 o 88  
86  
100...

...90  
TO INTERNET  
i  
GO IN TO 91  
V.C.G.N. SITE  
CHOOSE 92  
CASINO  
CHOOSE 9 3  
GAME  
GO IN TO 94  
SHIER FOR CREDIT@-@  
GET V.C.G SOFTWARE 95  
(ITS NEEDED ONLY  
FOR FIRST LOGIN)  
j 96  
GAMBLING OR  
ENTERTAINMENT  
i  
QUIT GAMBLING 9 7  
---f  
CASHIER 9 8  
IN/LAST ACCOUNT  
OUT OFF 99  
V.C.G.N. SITE  
OFF COMPUTER 1 00  
FIG\*9  
V c  
WWW.VCGN.COM  
VIDEO CONFERENCE GAMBLING NET  
91 B  
G N LIVE!!! 91A  
VIDEO OABOUT V.C.G.N  
OV.C...

...RULES

0 REGISTRATION  
0 CASHIER  
0 HAVE FUN-CUSTOMERS ONLY  
91C 91D  
PICK YOUR DESIRE **CASINO** CHOOSE YOUR GAME  
OX **CASINO** NAME+DESCRIPTION o **BLACK JACK**  
OY **CASINO** NAME+DESCRIPTION 0 BACCARAT  
oZ **CASINO** NAME+DESCRIPTION o POKER  
0 **ROULETTE**  
0 DICE/CRAPS  
0 **SLOT MACHINE**  
0

ENTER YOUR SUBSCRIBER NO.

FIG.10

V C

WWW.VCGN.COM

VIDEO CONFERENCE **GAMBLING** NET

4@

G N LIVE!!!

REGISTRATION

MINIMUM TARIFF FOR MEMBERSHIP: 3000 \$

FIRST NAME MIDDLE NAME...

...PLEASE REMEMBER

NEXT FRE

DOWNLOAD FIG, 1 1

V C

WWW.VCGN.COM

VIDEO CONFERENCE **GAMBLING** NET

G N LIVE!!!

CASHIER

WELCOME TO V.C.G.N QUICK CASHIER SERVICE. CHANCE CREDIT

AND LOG IN FOR LIVE **GAMBLING** IN THE BEST CASINOS IN THE FIRST NAME

MIDDLE NAME FAMILY NAME NICKNAME

E-MAIL...

...MORE

DID YOU SAFEGUARD OUR SOFTWARE

V.C.G.N FREE DOWNLOAD

PICK YOUR DESIRED **CASINO** CHOOSE YOUR GAME

HOME PACE

FIG. 1 2

L

WWW.LGN.COM

**GAMBLING** NET LIVE!!!

4@

G N

FREE DOWNLOAD

PLEASE ENTER DATA/INFORMATION CONCERNING YOUR P.C...

...SOFTWARE TYPE

MODEM TYPE

COMMUNICATION POSSIBILITY TEL

ISDN

INTERNET

DOWNLOAD OTHER COURIER

PICK YOUR DESIRED **CASINO** CHOOSE YOUR GAME

HOME PAGE

FIG.13

@4 /91

v c

WWW.VCGN.COM

VIDEO CONFERENCE **GAMBLING** NET

Q)

G N LIVE!!!

**BLACK JACK**

CASHIER YOUR SUBSCRIBER NO'

REGISTRATION ]IS/ENTER

HOME PAGE

YOUR CREDIT IS  
STANDING PLACE  
**CASINO**  
STEND BY VACANCY  
X **CASINO** NAME NO  
OY **CASINO** NAME YES TABLE NO' SEAT NO' MIN' LIMIT MAX  
o Z **CASINO** NAME YES II I  
YES IF  
NO  
NO  
YES  
NO IF  
NO

OTHER CAME  
OTHER **CASINO**  
HAVE FUN--w- WE WILL RING YOU WHEN YOUR SEAT IS FREE  
FIG.14

v C  
WWW.VCGN.COM  
VIDEO CONFERENCE **GAMBLING** NET  
IG N LIVE!!!

**BLACK JACK**  
WELCOME, THIS SERVICE IS MADE ESPECIALLY FOR OUR CUSTOMERS.  
WIN OR LOSE, WE WILL DO...

...CHAT-YOUR REQUEST  
CINEMA FILM  
MUSIC-SHOW  
SEX & LOVE  
FOOD/SNACK/DINNER  
GIFTS/PRESENTS  
OTHER  
**CASINO** & GAMES  
BACK TO HOME PAGE  
V.C.G.N COMMITMENT  
GAME LIST & RULES ENTER YOUR...

...TABLE DATA LOW HIGH  
CREDIT F -5 07\$ SCANNING  
@ SPEED  
1 24  
YES  
E@)  
(@@) 1LOSS- **BET** COLLECTED1  
Ea]  
PLAYER MONITOR  
FIG. 1 7 1 20  
(H) (D T (D  
(A) (D...

...CD 0 165  
m > LO u y MICIF  
Ln 0  
0  
cn > C) 'Kzt- LLJU  
3 : z z m z z  
m --4 n  
0 <  
m  
cn 0 163 TA81  
. [if...

...iA CL  
<  
cr<  
co ui  
CO)  
013 LOW HIGH

```

m
co BACCARAT TABLE 1
,@ A @ NN E @R
m
-----
AW H W DATA
F A CARD DEALERS
m INSTRUCTION PLAYER 1 2 3 4 5 6 71 819
CREDIT 186 PUNTO
178--,t xs BANCO
EGALITE
4D BET POSITION
AMOUNT
N I
184
- - - - - - -176 182
FIG.21
CD T CD (E@
(D (D...

```

8/3,AE,K/19 (Item 18 from file: 349)  
 DIALOG(R)File 349:PCT FULLTEXT  
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00406184

**3-BRAIN ARCHITECTURE FOR AN INTELLIGENT DECISION AND CONTROL SYSTEM  
 ARCHITECTURE A TROIS CERVEAUX POUR SYSTEME INTELLIGENT DE COMMANDE ET DE  
 DECISION**

Patent Applicant/Assignee:

WERBOS Paul J,

Inventor(s):

WERBOS Paul J,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9746929 A2 19971211

Application: WO 97US9724 19970604 (PCT/WO US9709724)

Priority Application: US 9619154 19960604

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
 prior to 2004)

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL  
 IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT  
 RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN GH KE LS MW SD SZ UG AM  
 AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT  
 SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 84125

**English Abstract**

A method and system (100) for intelligent control of external devices using a mammalian brain-like structure having three parts. The method and system include a computer storage medium (19) for storing a computer program code which causes the computer (102) to implement a neural network system which is an extension of the model-based adaptive critic design and is applicable to real-time control (e.g., robotic control) and real-time distributed control. Additional uses include data visualization, data mining, and other tasks requiring complex analysis of inter-relationships between data.

Main International Patent Class: G06F-015/18

Fulltext Availability:

Detailed Description

Claims

**Detailed Description**

... would say that this

connecticii is very straightforward. If U is chosen to represent net profits , then the learning task here -- to

maximize **profits** over the long-term -- encompasses quite a lot. The hypothetical may not be a good...has done it with missile interception.

Would you want to bet that people have spent **money** on how to do missile interception? Balakrishnan had worked with McDonnell-Douglas, and knew the...

Claim

... mate of J is updated or calculated by use of equation 23, in some way;

3 Policies or actions are updated based on J, as usual. As with ordinary incremental dynamic...in this paper is to set the stage for the full preferred form of the 3 -brain architecture, which involves neural networks and learning for large-scale problems. For the sake...delete the record of this transit. It is straightforward to adapt this method to a **neural network** approach as well, similar in spirit to Widrow's original adaptive critic **blackjack** player, briefly discussed in Neurocontrollers. Although these approaches are expected to be less ...some later time. (This is an example of the learning strategy called "syncretism" in Chapter 3 of Handbook of Intelligent Control.) Third, we can pick a possible or remembered (or just...

...only one cycle time of computation. Therefore, the preferred variation for a full, efficient, parallel 3 -brain design would involve frequent simulation-based updates and memory-based updates of J, especially...

...chunking intervals T, even during normal realtime operation of the system.

In actuality, for a **neural - network** approximation of this system, to be described in section 3 , there is an easier step by-step adaptation rule for these post-exit J estimates<sup>33</sup>) where the term in quotations refers to the output of a **neural network** (or other supervised learning system) which is trained to input the J estimates for the...grade software to implement many of these -2 3 6 designs (including those now used for **revenue** management at USAir and a more accurate variation thereof). Wunsch and Prokhorov reported at Ames on...fact, some of these gaps may even be filled in naturally. in an -2 4 3 incremental fashionr as people gradually improve the network components of these brain-like systems, in...at least 4-7 groups have managed to meet this standard, using various mixes of **ANN** , classical and fuzzy designs. These groups have demonstrated thA-t thes-e designs do indeed...

...future research. (See D.

Prokhorov & D. Wunsch, Stability of control with adaptive critic, IEEE Trans. **Neural Networks** , Submitted 1995, and P. Werbos, New methods for the automatic construction of Liapunov functions. In...

...and explain the kind of

intelligence we see in living brains, including the tradeoffs between **neural networks** , AI and classical approaches, and the challenges involved in reverse-engineering the nervous system. This is...of the original vision by D.O.Hebb which helped inspire the first wave of **neural network** research back in the 1950s and 1960s.

Before one can begin to implement (or justify...have seen a substantial

growth in the use of a common class of mathematical designs -- " **neural networks** " -- in engineering, in psychology and in neuroscience. In engineering, efforts like those supported by the...

...control, designs which are properly viewed as a subset of control theory. In psychology, simpler **ANN** designs have been used to predict or describe human behavior, most notably in the field...

...science."

Finally, in neuroscience, there has been a substantial growth in computational neuroscience, especially involving **neural network** models of associative memory.

Unfortunately, these three communities have still developed only a very limited...

...to support it -- even if

the design has been thoroughly analyzed mathematically, and

2 5 3

tested rigorously on its ability to control complex real-world physical plants. An engineer may look at the **neural networks** published by a psychologist, and call them "airballs," because there is no argument given that...

...standards of

validation, different definitions of what constitutes real empirical evidence in support of a **neural network** design. But in actuality, a valid model of learning in the brains of vertebrates should...complete understanding of the mammalian brain.

This section has also neglected the potential role of **AI**, which was also a major topic in the recent NSF workshop. This is because the key insights from **AI** will appear at a more technical level, as we consider the various components and tzi...

...capabilities of the

brain as a learning-based intelligent controller, would one have to use **neural networks**? Many researchers have very strong opinions about this question. However, in practice, the answer really...

...point where a simple "yes" or "no" would be misleading.

For example, what is a **neural network**? If a " **neural network** " is defined as the particular versions of **ANN** in use on computers in 1988, taken without any modifications or upgrading at all, then one could never build a brain out of **neural networks**. However, if a " **neural network** " is defined as a fairly broad class of mathematical designs, to include at least any plausible model of real biological neurons, then the brain itself must of course be a **neural network** system. The challenge to research is then to develop better and better **neural network** designs, so that they can gradually grow to encompass the kinds of capabilities and computational...

...brain. This is the main thrust

of the Neuroengineering program at NSF. In this approach, **AI** can be viewed as a source of insights or of desired characteristics which must be embedded into some kind of **neural network** design before they can serve as realistic models of biological circuitry.

On the other hand...W in that system, or in the structure or connections within that system. In the **ANN** field, a generic system which learns to generate outputs  $Y(t)$  which match some desired...

...There are many obvious possibilities here for

future research, drawing in part on biology and AI .  
Nevertheless, even the existing supervised learning systems  
with ANNs have demonstrated function approximation  
capabilities which...however, realistic approximate optimization  
designs have remarkably similar deficiencies.  
Both in classical control and in ANN control, virtually  
all useful designs are built up from designs to achieve one of  
three...

...to clone an expert;

(2) the ability to track a desired setpoint or reference  
trajectory; ( 3 ) the ability to maximize some kind of  
performance measure (or, equivalently, to minimize some  
measure...working in the field of adaptive  
critics come from a variety of disciplines -- control  
engineering, artificial intelligence , animal psychology, and  
so on.

The term "adaptive critic" itself came from Bernard  
Widrow, whose...

...extremely well-known in many branches of

electrical engineering. In 1973, Widrow developed a simple  
blackjack -playing program, using simple ANNs that he had  
developed in earlier years. This was in fact the first ANN  
implementation of any adaptive critic design. The design was  
based almost entirely on Widrow's...Klopf did not make the link to  
engineering by  
himself, but he located Air Force money to support the  
development of this connection. Using this support, he  
persuaded Andrew Barto to...optimize a  
performance measure which is some combination of tracking  
error, fuel use, pollution, cost, revenue , jerkiness or wear  
and tear of equipment, etc. Thus the problem to be solved Ja...  
Morgenstern, Raiffa). Utility functions can be formulated  
which represent a wide variety of concepts -- maximizing  
profit , minimizing cost or pollution or energy use, maximizing  
throughput, maximizing satisfaction of particular long-term...

8/3,AE,K/20 (Item 19 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00215272

**DETERMINING TRANSACTION SYSTEM HARDWARE AND SOFTWARE CONFIGURATIONS  
METHODE POUR DETERMINER LES CONFIGURATIONS DU LOGICIEL ET DU MATERIEL D'UN  
SYSTEME DE TRANSACTIONS INFORMATISE**

Patent Applicant/Assignee:

VERIFONE INC,

Inventor(s):

KANNADY Danny O,  
HORNER William McPherson,  
RAO Srinivasan,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9212489 A1 19920723

Application: WO 92US159 19920109 (PCT/WO US9200159)

Priority Application: US 91279 19910109

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AT AU BB BE BF BG BJ BR CA CF CG CH CI CM DE DK ES FI FR GA GB GN GR HU  
IT JP KP KR LK LU MC MG ML MR MW NL NO PL RO RU SD SE SN TD TG

Publication Language: English

Fulltext Word Count: 36219

English Abstract

A method and structure are provided for automating the collection of  
information from a customer and providing a specification of a



transaction system to fulfill the customer's needs and desires. An ordering step is used in order to obtain information via a convenient user interface to determine the customer's intended use of the machine and the performance desired. As a result of this ordering process, the system hardware configuration is determined automatically. During the implementation process, the system is used to assemble a package of software, to run the hardware thus configured and implement the chosen user functions. If desired, this information is stored for later use in the event the user wishes to modify the configuration of his system, or to order additional system configurations different than that of the initial system.

Main International Patent Class: G06F-015/20

International Patent Class: G06F-15:40

Fulltext Availability:

Detailed Description

Claims

Detailed Description

... different media

such as laws governing the use of  
food stamps

1 7 Printing sales **receipts** with  
options ...invoices from the financial  
resources in the facility (paid outs)

1 5 Accounting for miscellaneous  
**income**

1e4o5o1 U.S. Postage Stamps, game  
machines, etc.

1 5.2 Deposits and deposit  
returns...

Claim

... define the GemStone™ Transaction SuperSystem70A best  
suited to fulfill a user's specific requirements. SysGem714 **proceeds**  
through a series of windows/menus functionally organized to create a  
"picture" of the system...6 Loans to Cash Drawer? (Y/N)

7 Rental Control? (YIN)

S. Accommodations for Other **Income** ? (Y/N)

9 **Money** Order Sales? (Y/N)

Electronic Interface (Y/N)

10 Inventory Adjustment? (Y/N)

Deliveries (Y...the split price on nvultiple, unit priced hems, mIx and  
match or specially priced combinations: 3 for \$1 , coffee and danish,  
etc. Overriding the price of an Item at the time...

...rules for different media, such as laws  
governing the use of food stamps. PrIntIng sales **receipts** with options  
for modes: full receipt, abbreviated receipt, no receipt. Opening the  
cash drawer by...of vendor Invoices from the financial resources In the  
facillty (pay outs).

Accounting for miscellaneous **Income** :

U.S. Postage stamps, **game machines** , etc. Deposits and deposit  
returns for soft drink bottles and other oontalners. Rentals such as...  
SysGem™ - 29

GemStone™ Transaction SuperSystems™ Programmer's  
Manual

t

A

I

SysGem7m - 30

PATENT VERI- 3

A P P E N D I X C

BIND\*C

MODULE: BIND,C

```

TITLE: X
VV VV EEEEEEE RRRRRR IIIIII FFFFFFF 00000 NNN  NN  EEEEEEE
VV VV EE RR RR 11 FF 00 00 NNNN  NN  EE
VV VV EEEEEEE RRRRRR II FFFFFFF 00 00  NN  NN  NN  EEEEEEE
VV VV EE RR RR II FF 00 00  NN  NNNN EE
VVV EEEEEEE RR RR IIIIII FF 00000  NN  NNN EEEEEEF
COPYRIGHT 1990 VERIFONE, INC,
This program is the property of VERIFONer INC. and...h"
#include "costing.hil
#include "proto.h"
void handle-error(char str);
#define PROGNAME LENGHT 3
#define PROGDEF FILE "PROGDEF,TBL"
#define PREFIX 71ga000"
#define SUFFIX 11.prg"
Page 2
#define...

```

```

...str,"File open failed of file %s, Error
buf, errnc
handle.error(error
stk);
Page 3
return(-1);
if((datafile = open( PROGDEF -FILE, CLRDWR I C@
BINARY)) < 0)j
if(errno...

```

8/3,AE,K/21 (Item 20 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00141501

**INFORMATION TRANSFER AND USE, PARTICULARLY WITH RESPECT TO OBJECTS SUCH AS  
GAMBLING CHIPS**

**TRANSFERT ET UTILISATION D'INFORMATIONS, EN PARTICULIER RELATIVES A DES  
OBJETS TELS QUE DES JETONS DE JEU**

Patent Applicant/Assignee:

STORCH Leonard,

Inventor(s):

STORCH Leonard,

VAN HAAGEN Ernst,

Patent and Priority Information (Country, Number, Date):

Patent: WO 8706372 A1 19871022

Application: WO 87US915 19870420 (PCT/WO US8700915)

Priority Application: US 86745 19860418

Designated States:

(Protection type is "patent" unless otherwise stated - for applications  
prior to 2004)

AT AU BE BJ BR CF CG CH CM DE DK FI FR GA GB HU IT JP KP KR LK LU MC MG

ML MR MW NL NO RO SE SN SU TD TG

Publication Language: English

Fulltext Word Count: 45065

English Abstract

Coding systems utilizing machine-readable coding. The coding systems are extremely simple to use and preferred embodiments of the machine-readable coding require no external reference or reference code or starting point or orientation for reading or decoding. The number of usable codes for any given number of code elements (bits or digits) is maximized, or, conversely, a minimum number of code elements is required for a given application, thus allowing each code element to be of maximum size for a given coding area. Also, methods and apparatus for encoding objects, and for reading, decoding, processing and using the information obtained from such encoded objects are disclosed. The coding (A-M) may be applied to objects such as casino chips (0-63), **currency**, automated production line components, consumer products, household items, zip coded objects,

etc. The coding system and systems using the coding can be employed for enabling positive real-time detection of counterfeits (rather than mere counterfeit deterrence), cash monitoring, information gathering, object identification, etc., at minimum cost with maximum reliability and real-time speed. Preferred embodiments of systems concern round casino chips and paper **money** . Signals and data may be encoded independently of physical objects while obviating the need for any reference or synchronization in the coding.

Main International Patent Class: **G06F-015/20**

Fulltext Availability:

Detailed Description

Claims

English Abstract

...The coding (A-M) may be applied to objects such as casino chips (0-63), **currency** , automated production line components, consumer products, household items, zip coded objects, etc. The coding system...

...reliability and real-time speed. Preferred embodiments of systems concern round casino chips and paper **money** . Signals and data may be encoded independently of physical objects while obviating the need for...

Detailed Description

... gambling chips, coins and tokens, and other objects such as production line components, commercial paper, **currency** , credit cards and food and consumer products. The information may be utilized for counting, identifying...

...circularly-shaped objects such as vehicle wheels and - tires; commercial paper (checks, securities, etc.) and **currency** ; products such as consumer products including food products sold in supermarkets, drugstores, hardware stores, etc...

...may be used for purposes including, but not limited to the following.

identification; object value ( **currency** , gambling chip, token or security denomination, product price and/or cost,, etc.) ; object counting; manufacturing...

...operations and activities.

Revenues from gambling operations at a casino are produced by exchanging customers' **money** for gambling chips and providing gambling games for the customers so that they can wager...

...Because

of the house odds and the emotions involved in gambling, a casino shows a **profit** by winning back the chips. The essence of the casino's operations and revenues revolves...received for the sale of chips, enables the casino to determine the approximate amount of **money** taken in at any gambling table, as well as by all or groups of tables...

...an adequate supply of chips and for

cash management purposes to determine the amount of **money** made or lost by the casino due to the loss or theft of chips and...product code (UPC), and/or for identifying or tracing and/or denominating commercial paper and **currency** ,, and/or for identifying and/or denominating gambling chips, coins and tokens, etc,

It is...without denomination totals, at any instant of time and thereby provide chip counts and/or **revenue** information; (3) compute changes in the total

chips present in specific racks and/or locations...

...provide

statistical information never before available that would suggest a variety of new and more **profitable** methods of operation.

A system, according to the invention, identifies items of **currency** and the like, including detecting the use of counterfeits and the ability to trace items of **currency**. Each item is encoded with unique machine-readable binary information. This system comprises means for...No.

```
0 000000 A* 000000 (A*)
1 000001 B* 000001 (B*)
2 000010 000001 (B)
3 000011 C* 000011 (C*)
4 000100 000001 (B)
5 000101 D* 000101 (D*)
6 000110...
```

...es 91q4 PT9TA 'uO'rqs'eg s'llqq UT P'e9:1

.u9t1m , 'OT0000,, jaqmnu **Ai** -eu-Eq aLp pue ,T00000,, :xaquinu  
AJeUTq aqq J9Tduixe joa oso:iaz TPOTBOT 9A14noasuoo Oz...as the valid  
number for that group in the  
column headed "Valid No,"

FIGS. 1-3 illustrate the coding/decoding system of the invention with a six code element or codable position code applied to **gambling** chips. The binary levels are represented by light and dark stripes (e.g. an optical...and it is therefore recorded as a valid number in step 405, The method then **proceeds** to steps 406 and 407 as in the method of the flow chart of FIG and the method then **proceeds** to step 405. In step 427 these stored numbers are compared to the next sequential...

...to step 402. If

it is not equal to a stored number, then the method **proceeds** to step 403 to determine whether it is a valid number.  
Another method for countingr...

...require consideration of sequential odd

numbers. The constructing method is more direct in that it **proceeds** from one valid number to the next, To go from one one-way valid number...from the chip 42 which is free from any boundary condition readings or problems and **proceeds** to decode the binary information as described for circuit 160 in FIG. 17\* Construction and...or game operators, etc. With cash receipt information entered, it analyzes cash flow, losses and **profits**, etc., at a given time on a table or casino wide basis, etc.

A special...

...or surveillance

equipment.

Cashiers, dealers and/or pit bosses may also enter any exchange of **money** and chips into the central computer 300. For example,, when a blackjack player gives the...the player, and the dealer or the pit boss enters by means of a keyboard, **money** scanner, voice recognition unit, etc\*1 information indicating that \$100 was received to record the...

...by chip cashing machines.

Other options exist as alternate means to enter the exchange of **money** (or markers, etc.) for chips at gambling tables and cashier booths. Special purpose chips could...

...rack to "sell" to a player. This would inform the computer of the amount of **money** (markers,, etc.) that should have been deposited in the cash box associated with each gaming...more fully below.

Another possible application for code 350 is machine readable coding for paper **currency**, commercial paper, checks, etc. (To machine read **currency**, the bills may be presented to reading apparatus in a stack, and means are provided...

...of the full code L in a one-way reading environment. With respect to paper **currency** 355 as shown in FIG. 22A, one-way reading only may suffice in that coding 350 could be printed, embossed etc. in more than one location on the **currency** bill in such a manner that no matter what the orientation of the bill in...all code elements accurately. However, tolerances for shrinkage, etc. would be (more) strict.

Heretofore, counterfeit **currency** has been coped with simply by making it more difficult to make a good copy...

...coded serial numbers. Also, the principles of casino chip tracing may be applied to tracing **currency**.

Thus coping with counterfeiting, applicants further suggest that there may be benefit in using a...

...to save (frequent) re-printing and related expenses. Alternatively,, just the coded area of the **currency** may be protected with appropriate coating, treatments, etc., to insure that the coded information would out-last the useful life of the **currency** and/or minimize the adverse effects of writing, dirt, etc., by making it difficult for foreign substance to adhere to the **currency**.

If the paper **currency** now in use were to be replaced with machinereadable coded **currency**, it could be accomplished slowly, i.e., as old **money** wore out, new **money** could be used to replace it. Other points should be considered simultaneously with the change...

...machine-readable coded currency e.g., one major factor of normal wear and tear on **currency** is that, usually, when more than one bill is handled, bundled, etc., they are oriented handling of **currency** means less wear and tear. But,, another significant benefit many man-hours per year, considering...  
...commercial handling by toll booth attendants, clerks, cashierst customers, etc., (and people kept waiting while **currency** is handled by others). Thus,, considerable efficiencies and savings would be realized.

Also, the back...

...information to orient the bill face to back.

A preferred code for grocery products, paper **currency** , , etc., is the coding of FIG. 23 or 24, because no rotary orientation of the...small) checker board. Using the coding/decoding system as just described may be preferred for **currency** , for example, where many code elements (of relatively large lateral extent) may be required and...

#### Claim

... to claim 1

wherein the objects each have code elements defining information related to a **monetary** value.

18 The system according to claim 1

wherein the reading means includes a rack...elements defining information uniquely identifying the object.

82\* A system for identifying objects such as **currency** , each object being encoded with unique machine-readable binary information, the system comprising:

means for...objects according to claim 88

wherein the objects each have coded information related to a **monetary** value.

105. The objects according to claim 88

wherein at least two of the objects...machine reading coded information carried

by the chips, means for associating read coded information and **monetary** values, means for processing **monetary** values of chips whose coded information has been read by the reading means, and means causing the processed **monetary** values to be stored, displayed or made available for further processing.

134. The system according...

...means, the processing

means and the causing means cooperate to store, display or make the **monetary** values available in real time.

135. The system according to claim 133

wherein at least...

...the information read with the

location at which it was read, means for providing the **monetary** value of chips where coded information is read, means for storing the **monetary** value and correlated location information and coded information, means for inputting correlated location information and **monetary** information into the storing means for storage with the coded information with which such correlated location and **monetary** information is associated, and means for providing from information read from the storage means correlated location information and/or **monetary** information.

139\* A system for identifying gambling

chips and the like including detecting the use...the preceding claims wherein the

objects each have code elements defining information related to a **monetary** value.

19 The system according to any of the preceding claims wherein the

reading means...elements defining information uniquely identifying the object.

74 A system for identifying objects such as **currency** , each object having unique machine-readable information according to a detectable code such as alphabetic...

...is the same as stored selected information.

75 A system for identifying objects such as **currency** , each object having coded unique machine-readable randomly-selected information, the system comprising:

means for...any of claims 80-94 wherein the objects

each have coded information related to a **monetary** value.

96 The objects according to any of claims 80-95 wherein two end elements...1 0. The objects according to any of claims 80-109 wherein the objects

are **currency** .

111. An object, having two or more distinguishable sets of machine readable information on one...US87/00915 disposed in a respective chip rack, means for associating read coded information and **monetary** values, means for processing **monetary** values of

chips whose coded information has been read by the reading means, and means causing the processed **monetary** values to be stored, displayed or made available for further processing.

126. The system according...

...means, the processing means and the causing means cooperate to store, display or make the **monetary** values available in real time.

127. The system according to any of claims 125 and...

...the information read with the location at which it was read, means for associating the **monetary** value of chips with coded information read from the chips, means for storing the **monetary** value and correlated location information and coded information, means for inputting correlated location information and **monetary** information into the storing means for storage with the coded information with which such correlated location and **monetary** information is associated, and means for providing from information read from the storage means correlated location information and/or **monetary** information.

131. A system for identifying gambling chips and the like including detecting the use...

?

.?ds

Set	Items	Description
S1	22634	NEUR? ()(NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MATCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()LINEAR()PROCESS? OR NEUGENT?
S2	228427	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR (GAME OR - SLOT)()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	178067	DATABASE? OR DATA()BASE? OR DATA (2N) (WAREHOUS? OR WARE(-)HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR DATABANK? OR DATA()BANK? OR DATAFILE? OR DATA()FILE? OR RDBMS OR RDB OR RDBM OR OODB OR O()O()D()B OR R()D()B()M
S4	4	S1 AND S2 AND S3
S5	257	S1 AND S2
S6	21	S5 AND IC=G06F?
S7	17	S6 NOT S4

?show files

File 347:JAPIO Nov 1976-2004/Jun(Updated 041004)

(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200467

(c) 2004 Thomson Derwent

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t s4/5/1-3

4/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015161632 \*\*Image available\*\*

WPI Acc No: 2003-222160/200321

XRPX Acc No: N03-177146

**Server system for online gaming has login module obtaining record counts from servers in on-line database in response to request to log-in user**

Patent Assignee: REBEL ARTS LLC (REBE-N); HESS L D (HESS-I)

Inventor: HESS L D

Number of Countries: 100 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200313675	A1	20030220	WO 2002US24854	A	20020806	200321 B
US 20030037149	A1	20030220	US 2001310548	P	20010807	200325
			US 2002212086	A	20020806	
AU 2002330995	A1	20030224	AU 2002330995	A	20020806	200461

Priority Applications (No Type Date): US 2001310548 P 20010807; US 2002212086 A 20020806

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 200313675	A1	E	42 A63F-009/24	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

US 20030037149	A1	G06F-015/173	Provisional application US 2001310548
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AU 2002330995	A1	A63F-009/24	Based on patent WO 200313675
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Abstract (Basic): WO 200313675 A1

NOVELTY - Server comprises login, location, command and text modules, and an online **database** made up of servers arranged in clusters with sister node pairings. It has an offline **database** and supports a massively multi player online game. It has an **artificial intelligence** module. In response to a request to login a user, the login module obtains record counts from the servers in the online **database**, determines which server has the fewest records and designates it to perform functions on behalf of the user.

DETAILED DESCRIPTION - There are INDEPENDENT CLAIMS for:

(1) A method of conducting a massively multi player online game

(2) A system for coordinating interactions among remote users

USE - Server is for massively multi player online games, online **gambling**, military simulations, Internet catalog sales and online learning.

ADVANTAGE - Server is fault tolerant and eliminates the zone architecture in massively multi player server design to deliver a scalable high performance **database** improving live game performance and reliability.

DESCRIPTION OF DRAWING(S) - The figure shows a hardware layout for the server system.

pp; 42 DwgNo 3a/10

Title Terms: SERVE; SYSTEM; GAME; MODULE; OBTAIN; RECORD; COUNT; SERVE; LINE; **DATABASE**; RESPOND; REQUEST; USER

Derwent Class: P36; T01; W04

International Patent Class (Main): A63F-009/24; G06F-015/173

International Patent Class (Additional): A63F-013/00; G06F-013/00

File Segment: EPI; EngPI

4/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX  
'(c) 2004 Thomson Derwent. All rts. reserv.

014859153 \*\*Image available\*\*

WPI Acc No: 2002-679859/200273

**System for forecasting winning of sports by artificial intelligence and method for managing the same**

Patent Assignee: CHO P J (CHOP-I); JANG J Y (JANG-I); SHIN S H (SHIN-I)

Inventor: CHO P J; JANG J Y; SHIN S H

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 2002035512	A	20020511	KR 200216178	A	20020325	200273 B

Priority Applications (No Type Date): KR 200216178 A 20020325

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
KR 2002035512	A	1	G06F-019/00	

Abstract (Basic): KR 2002035512 A

NOVELTY - A system for forecasting a winning of sports is provided to increase a victory probability by analyzing and processing daily forecast data based on basic contents and previous and current data using an artificial intelligence, transmitting the information to a personal mobile terminal, and making a user bet according to the information.

DETAILED DESCRIPTION - A provider(10) receives collected data of a database storing a previous horse racing winning average and a dividend. A horse racing forecast server(11) is connected to the provider(10), forecasts a champion through a race analysis element of the first artificial intelligence forecast unit, and receives the information. A gateway(12) is connected to the horse racing forecast server(11) and receives champion forecast data of a horse racing forecast data transmission unit. A wireless network(13) is connected to the gateway(12) and receives a wireless communication usage of a communication company and a charging system linking support. A PDA terminal(14) is connected to the wireless network(13) and receives champion information forecasted by the second artificial intelligence forecast unit using a race analysis element in a horse racing place. Thus, the user may forecast a champion through the PDA terminal(14).

pp; 1 DwgNo 1/10

Title Terms: SYSTEM; FORECAST; WINNING; SPORTS; ARTIFICIAL; INTELLIGENCE; METHOD; MANAGE

Derwent Class: T01

International Patent Class (Main): G06F-019/00

File Segment: EPI

4/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014037072 \*\*Image available\*\*

WPI Acc No: 2001-521285/200157

XRPX Acc No: N01-386205

**Customer and merchant interaction system for predicting future revenue from game machines in casino, retrieves prediction data representing future interactions between customers and merchants**

Patent Assignee: COMPUTIGM INT LTD (COMP-N)

Inventor: CARDNO A J

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200104808	A1	20010118	WO 2000NZ125	A	20000713	200157 B
AU 200063247	A	20010130	AU 200063247	A	20000713	200157
EP 1212716	A1	20020612	EP 2000950099	A	20000713	200239
			WO 2000NZ125	A	20000713	

Priority Applications (No Type Date): NZ 336743 A 19990713

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200104808 A1 E 31 G06F-017/60

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT  
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200063247 A G06F-017/60 Based on patent WO 200104808

EP 1212716 A1 E G06F-017/60 Based on patent WO 200104808

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200104808 A1

NOVELTY - A retrieval unit activates a **neural network** (200) to retrieve interaction data from the data memory. The interaction data represents interactions between customer and merchants. Display unit (214) displays the predicted data representation. The interaction data from memory and predicted data are compared and based on compared result, **neural network** is adjusted.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) **Neural network** training system;
- (b) Interaction prediction computer program;
- (c) **Neural network** training computer program;
- (d) Method of predicting interactions between customers and merchants;
- (e) Method of training **neural network** ;
- (f) **Neural network**

USE - To identify information hidden in collective data from **game machines** in **casino** , for predicting future revenue from **game machines** .

ADVANTAGE - Each machine is provided with electronic meters to know whether the machine is in use, the money placed in the machine etc so the data is transferred in real time. The interaction data is stored in a number of records in a relational **data base** and migration is done easily.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a **neural network** .

**Neural network** (200)  
Display unit (214)  
pp; 31 DwgNo 4/7

Title Terms: CUSTOMER; MERCHANT; INTERACT; SYSTEM; PREDICT; FUTURE; REVENUE  
; GAME; MACHINE; **CASINO** ; RETRIEVAL; PREDICT; DATA; REPRESENT; FUTURE;  
INTERACT; CUSTOMER; MERCHANT

Derwent Class: T01; W04

International Patent Class (Main): G06F-017/60

File Segment: EPI

?

?t s7/5/3,5,7,8,11

7/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

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03795363 \*\*Image available\*\*

OPTIMIZING METHOD BY **NEURAL NETWORK**

PUB. NO.: 04-160463 [JP 4160463 A]

PUBLISHED: June 03, 1992 (19920603)

INVENTOR(s): MASUI HIRONARI

MATSUBA IKUO

APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)

APPL. NO.: 02-284236 [JP 90284236]

FILED: October 24, 1990 (19901024)

INTL CLASS: [5] **G06F-015/18** ; G06G-007/60

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

JOURNAL: Section: P, Section No. 1425, Vol. 16, No. 454, Pg. 81,  
September 21, 1992 (19920921)

#### ABSTRACT

PURPOSE: To obtain an excellent solution at a high speed and to enable optimization by **neural networks** by searching for the solution over a wide range.

CONSTITUTION: A problem 105 is inputted to a network generation part 106 first and a coupling load generator 108 generates a coupling load; and a thresh old value generator 109 generates a threshold value and an output function generator 110 generates an output function. A **neural network** 111 and a **neural network** 112 in a network group 107 are combined for execution according to the generated coupling load, threshold value, and output function to perform information processing by calculating a distribution which is as close to the **bet** solution as possible at a high speed and obtaining the final solution 113.

7/5/5 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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016086547 \*\*Image available\*\*

WPI Acc No: 2004-244422/200423

XRPX Acc No: N04-194012

**Investment simulation program for gaining profit in e.g. horse race, calculates investment money using specific equation relating plan money recovery of choice, principal amount and bet object**

Patent Assignee: FUJIYAMA KK (FUJI-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2004070797	A	20040304	JP 2002231311	A	20020808	200423 B

Priority Applications (No Type Date): JP 2002231311 A 20020808

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2004070797	A	10	G06F-017/60	

Abstract (Basic): JP 2004070797 A

NOVELTY - An input button (2) inputs plan money recovery (Q) of choice, principal/loss-of-money amount (P) and **bet** objects ( **ai** ) for an investment simulation. An arithmetic unit (4) calculates investment money (Xi) using specific equation relating choice recovery, principal/loss-of-money amount and **bet** object. A display device (3) displays the calculated result.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) computer readable recorded medium storing investment simulation

program; and

(2) investment simulation system.

USE - For producing gain profit for horse race, bicycle race and motorboat race.

ADVANTAGE - Since investment money is calculated using specific equation, profits are obtained reliably.

DESCRIPTION OF DRAWING(S) - The figure shows a front view of investment simulation system.

input button (1)

display device (3)

arithmetic unit (4)

determination button (11)

direction button (14)

pp; 10 DwgNo 1/8

Title Terms: INVESTMENT; SIMULATE; PROGRAM; GAIN; PROFIT; HORSE; RACE; CALCULATE; INVESTMENT; MONEY; SPECIFIC; EQUATE; RELATED; PLAN; MONEY; RECOVER; CHOICE; PRINCIPAL; AMOUNT; **BET** ; OBJECT

Derwent Class: T01

International Patent Class (Main): **G06F-017/60**

International Patent Class (Additional): **G06F-017/12 ; G06F-019/00**

File Segment: EPI

**7/5/7 (Item 3 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

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014327593 \*\*Image available\*\*

WPI Acc No: 2002-148296/200219

Related WPI Acc No: 1998-178337; 1999-561361

XRPX Acc No: N02-112379

**Baccarat display device has feed-forward neural network recognizing card suit and value and blocks dispensing of cards depending on game status**

Patent Assignee: SMART SHOES INC (SMAR-N)

Inventor: HILL O D

Number of Countries: 097 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200205914	A1	20020124	WO 2001US22136	A	20010713	200219 B
AU 200177883	A	20020130	AU 200177883	A	20010713	200236
US 20020068635	A1	20020606	US 95543908	A	19951017	200241
			US 9831321	A	19980226	
			US 2000528577	A	20000320	
			US 2000218222	P	20000714	
			US 2001905478	A	20010713	
US 6582301	B2	20030624	US 95543908	A	19951017	200343
			US 9831321	A	19980226	
			US 2000528577	A	20000320	
			US 2000218222	P	20000714	
			US 2001905478	A	20010713	
EP 1335783	A1	20030820	EP 2001955828	A	20010713	200362
			WO 2001US22136	A	20010713	
BR 200112102	A	20040210	BR 200112102	A	20010713	200414
			WO 2001US22136	A	20010713	
ZA 200300048	A	20040128	ZA 200348	A	20030102	200420

Priority Applications (No Type Date): US 2000218222 P 20000714; US 95543908 A 19951017; US 9831321 A 19980226; US 2000528577 A 20000320; US 2001905478 A 20010713

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200205914 A1 E 80 A63F-013/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR

IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  
 AU 200177883 A A63F-013/00 Based on patent WO 200205914  
 US 20020068635 A1 G06F-019/00 CIP of application US 95543908  
 Cont of application US 9831321  
 CIP of application US 2000528577  
 Provisional application US 2000218222  
 US 6582301 B2 A63F-013/00 CIP of application US 95543908  
 Cont of application US 9831321  
 CIP of application US 2000528577  
 Provisional application US 2000218222  
 CIP of patent US 5722893  
 Cont of patent US 6039650  
 CIP of patent US 6299536  
 EP 1335783 A1 E A63F-013/00 Based on patent WO 200205914  
 Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT  
 LI LT LU LV MC MK NL PT RO SE SI TR  
 BR 200112102 A A63F-013/00 Based on patent WO 200205914  
 ZA 200300048 A 89 A63F-000/00

Abstract (Basic): WO 200205914 A1

NOVELTY - Device comprises a shoe with a housing for playing cards (Baccarat) and a scanner identifying each card dispensed. A memory stores game rules and a processor identifies the cards. A barrier in the housing near the outlet slot blocks or unblocks card dispensing electromechanically under processor control according to game rules or a dealer-operated switch. The game is played on a surface with game status sensors operating the barrier and a program determines whether a player has advance knowledge of a card and whether a player is exceeding a predetermined number of wins using information from a player ID card reader which notes player performance characteristics.

DETAILED DESCRIPTION - There are INDEPENDENT CLAIMS for (1) a Baccarat-playing and remote **betting** system, (2) a method of securely dispensing card game cards.

USE - Device is for shoes for **casino** card games such as Baccarat, Caribbean Stud, Poker etc.

ADVANTAGE - Device enables remote viewers to see a game and the scanner output image of each card dealt from a shoe and to wage **bets** remotely e.g. via the Internet.

DESCRIPTION OF DRAWING(S) - The figure shows a system enabling remote viewers to wage **bets** in real time on an actual card game using a shoe and scanner.

pp; 80 DwgNo 23a/23

Title Terms: DISPLAY; DEVICE; FEED; FORWARD; NEURAL; NETWORK; RECOGNISE; CARD; SUIT; VALUE; BLOCK; DISPENSE; CARD; DEPEND; GAME; STATUS

Derwent Class: P36; W04

International Patent Class (Main): A63F-000/00; **A63F-013/00** ; **G06F-019/00**

File Segment: EPI; EngPI

7/5/8 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014309482 \*\*Image available\*\*

WPI Acc No: 2002-130185/200217

XRPX Acc No: N02-098229

**Three-dimensional image viewing device for radar, surveillance applications, has filter with array of apertures each having red, blue and green filters and filter screen spaced from backing screen to display image**

Patent Assignee: ORME G M (ORME-I)

Inventor: ORME G M

Number of Countries: 093 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200131384	A1	20010503	WO 2000AU1316	A	20001027	200217 B
AU 200111170	A	20010508	AU 200111170	A	20001027	200217

JP 2003513302 W 20030408 WO 2000AU1316 A 20001027 200333  
JP 2001533462 A 20001027

Priority Applications (No Type Date): AU 20006512 A 20000328; AU 993706 A  
19991027; AU 20006508 A 20000328; AU 20006509 A 20000328; AU 20006510 A  
20000328; AU 20006511 A 20000328

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200131384 A1 E 67 G02B-027/22

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH  
CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE  
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU  
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200111170 A G02B-027/22 Based on patent WO 200131384

JP 2003513302 W 61 G02B-027/22 Based on patent WO 200131384

Abstract (Basic): WO 200131384 A1

NOVELTY - A filter unit has an array of apertures (210) each having  
red, green and blue filters (211). The filters (211) prevents passage  
of specific wavelength of electromagnetic radiation. Image is displayed  
in front of a filter screen (209) which is spaced from a backing screen  
(205).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the  
following:

- (a) Business system;
- (b) Isolation device;
- (c) Transmission data encoding method;
- (d) Gear assembly

USE - For delivering graphical and other desired features to users  
in network applications like internet. For developing 3D scene in game  
and enlarging 3D film or photo. For **artificial intelligence** system  
in radar, submarine and surveillance applications. In **gambling** system  
such as poker machines, horse racing, charities, etc.

ADVANTAGE - Enables to view a 3D image by providing a filter screen  
spaced from backing screen and array of apertures with filters. Since  
material that darken when light is too bright or fluoresces when light  
is too dark is used, looking through a screen at sun, might be safe as  
sun rays are loosened in intensity while looking at dark scenery, which  
might be enhanced as light is amplified. Provides pilot to practice  
simulated dog fight in which enemy planes, missiles and territory would  
appear in perfect 3D, thereby enemy terrain pilots can familiarize  
themselves with an area by having enemy terrain displayed when flying  
over friendly territory. Provides screen capable of filtering out the  
sun and replacing it with a black dot so that pilot could look directly  
at it from any position without risking his/her eyes. Since the screen  
inputs light from object from all points facing it, the image can be  
strengthened by augmenting from different parts of screen information.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram  
of 3D image device.

Backing screen (205)

Filter screen (209)

Apertures (210)

Filters (211)

pp; 67 DwgNo 10/21

Title Terms: THREE; DIMENSION; IMAGE; VIEW; DEVICE; RADAR; SURVEILLANCE;  
APPLY; FILTER; ARRAY; APERTURE; RED; BLUE; GREEN; FILTER; FILTER; SCREEN;  
SPACE; BACKING; SCREEN; DISPLAY; IMAGE

Derwent Class: P81; P82; P85; Q64; T01; U21; W01; W02; W04

International Patent Class (Main): G02B-027/22

International Patent Class (Additional): F16H-021/06; F16H-021/10;

F16H-021/16; G03B-035/24; **G06F-017/60** ; **G06F-155/00** ; G09C-001/00;

H02J-007/02; H02J-009/02; H03M-007/00; H04L-009/06; H04L-012/54;

H04N-015/00

File Segment: EPI; EngPI

7/5/11 (Item 7 from file: 350)  
DIALOG(R) File 350:Derwent WPIX  
(c) 2004 Thomson Derwent. All rts. reserv.

009483516 \*\*Image available\*\*  
WPI Acc No: 1993-177051/199322  
XRPX Acc No: N93-135692

**Image data compression by density comparison - reducing number of density levels successively by comparing numbers of pixels having adjacent levels and absorbing smaller into larger**

Patent Assignee: YOZAN INC (YOZA-N); EZEL INC (EZEL-N); EZEL KK (EZEL-N)  
Inventor: HONG Z Q; KUMAGAI R  
Number of Countries: 004 Number of Patents: 004  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 544258	A1	19930602	EP 92120093	A	19921125	199322 B
JP 5225322	A	19930903	JP 91337724	A	19911127	199340
EP 544258	B1	19960529	EP 92120093	A	19921125	199626
DE 69211098	E	19960704	DE 611098	A	19921125	199632
			EP 92120093	A	19921125	

Priority Applications (No Type Date): JP 91337724 A 19911127  
Cited Patents: EP 187911; EP 301207; EP 337325  
Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 544258	A1	E 10	H04N-001/41	
			Designated States (Regional): DE FR GB	
EP 544258	B1	E 11	H04N-001/41	
			Designated States (Regional): DE FR GB	
DE 69211098	E		H04N-001/41	Based on patent EP 544258
JP 5225322	A		G06F-015/66	

Abstract (Basic): EP 544258 A

The image data compression method involves extracting a histogram of the pixel density levels. The number of pixels of each density level is determined and compared with the number of an adjacent level.

If the number of pixels of eg. density 0 is compared with density 1 and there are more pixels of density 1 than of density 0 the minor number is absorbed into the major number and both sets of pixels are represented by density 1. The process may be repeated a predetermined number of times.

USE/ADVANTAGE - for **pattern matching** by template or image data of a **game machine**. Simple to achieve by hardware, keeps maximum characteristic data of image.

Dwg.1/9

Title Terms: IMAGE; DATA; COMPRESS; DENSITY; COMPARE; REDUCE; NUMBER; DENSITY; LEVEL; SUCCESSION; COMPARE; NUMBER; PIXEL; ADJACENT; LEVEL; ABSORB; SMALLER; LARGER

Derwent Class: W02

International Patent Class (Main): G06F-015/66 ; H04N-001/41

International Patent Class (Additional): G06F-015/64 ; H04N-007/13

File Segment: EPI

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ds

Set	Items	Description
S1	523939	NEUR? () (NETWORK? OR PROCESS? OR NET OR NETS OR SYSTEM?) OR ANN OR GENETIC()ALGORITHM? MACHINE()LEARNING OR PATTERN()MATCH? OR NN OR RMLP OR ARTIFICIAL()INTELLIGEN? OR AI OR NON()-LINEAR()PROCESS? OR NEUGENT?
S2	1035381	CASINO OR GAMBLING OR BETTING? OR BET OR BETS OR GAMING OR (GAME OR SLOT) ()MACHINE? OR SLOTS OR ROULETTE OR BLACKJACK OR BLACK()JACK
S3	2546877	DATABASE? OR DATA()BASE? ? OR DATA (2N) (WAREHOUS? OR WARE()HOUS? OR MINE? ? OR MINING?) OR DATAMIN? OR DB OR DBS OR D-ATABANK? OR DATA()BANK? OR DATAFILE? ? OR DATA()FILE? ? OR RD-BMS OR RDB OR RDBM OR OODB OR O()O()D()B OR R()D()B()M
S4	94	S1(S)S2(S)S3
S5	52	S4 NOT PY>1999
S6	46	RD (unique items)
S7	11614079	MONEY? OR MONETARY OR WINNINGS OR REVENUE OR CURRENCY OR - PROCEEDS OR INCOME OR PROFIT? OR RECEIPTS OR PAYOUT? OR CHIPS
S8	23	S6 AND S7
S9	288	S1(S)S2(S)S7
S10	7336877	PREDICT? OR FORECAST? OR SPECULAT? OR PROGNOSTICAT? OR TRACK? OR MONITOR?
S11	58	S9(S)S10
S12	48	RD (unique items)
S13	24	S12 NOT PY>1999
S14	19	S13 NOT S8
S15	39	S1(S)S2 (S) (MACHINE? OR DEVICE?) (S) S10
S16	34	RD (unique items)
S17	15	S16 NOT PY>1999
S18	10	S17 NOT (S14 OR S8)

?show files

File 275:Gale Group Computer DB(TM) 1983-2004/Nov 01  
(c) 2004 The Gale Group

File 621:Gale Group New Prod.Annou.(R) 1985-2004/Nov 01  
(c) 2004 The Gale Group

File 636:Gale Group Newsletter DB(TM) 1987-2004/Nov 01  
(c) 2004 The Gale Group

File 16:Gale Group PROMT(R) 1990-2004/Nov 01  
(c) 2004 The Gale Group

File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group

File 148:Gale Group Trade & Industry DB 1976-2004/Oct 15  
(c)2004 The Gale Group

File 624:McGraw-Hill Publications 1985-2004/Oct 28  
(c) 2004 McGraw-Hill Co. Inc

File 15:ABI/Inform(R) 1971-2004/Oct 30  
(c) 2004 ProQuest Info&Learning

File 647:CMP Computer Fulltext 1988-2004/Oct W3  
(c) 2004 CMP Media, LLC

File 674:Computer News Fulltext 1989-2004/Sep W1  
(c) 2004 IDG Communications

File 696:DIALOG Telecom. Newsletters 1995-2004/Oct 29  
(c) 2004 The Dialog Corp.

File 369:New Scientist 1994-2004/Oct W3  
(c) 2004 Reed Business Information Ltd.

File 9:Business & Industry(R) Jul/1994-2004/Oct 27  
(c) 2004 The Gale Group

File 13:BAMP 2004/Oct W3  
(c) 2004 The Gale Group

File 47:Gale Group Magazine DB(TM) 1959-2004/Nov 01  
(c) 2004 The Gale group

File 98:General Sci Abs/Full-Text 1984-2004/Sep  
(c) 2004 The HW Wilson Co.

File 610:Business Wire 1999-2004/Oct 27  
(c) 2004 Business Wire.

File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire

File 63:Transport Res(TRIS) 1970-2004/Sep

(c) fmt only 2004 Dialog Corp.

File 813:PR Newswire 1987-1999/Apr 30

(c) 1999 PR Newswire Association Inc

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?t s8/3,k/8

8/3,K/8 (Item 2 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2004 The Gale Group. All rts. reserv.

01455247 Supplier Number: 41748439 (USE FORMAT 7 FOR FULLTEXT)

**Neural nets are off to the races**

Electronic Engineering Times, p19

Dec 24, 1990

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 699

... on the prior performance of horses.

Bamf president Richard Dixon said his brainchild returns a **profit** of 25 percent to 45 percent each betting day. The package, which is called Power...

...could affect whether or not a horse wins a race, and entered them in a **database** along with the information on 200 races. The **neural network** was then set the task of learning which of these factors determine the horses that...

...system has learned those characteristics, you enter the parameters for a new race and the **neural network** picks the horses to **bet**.

The parameters Dion uses include past race results and fractional times--that is, the times...

...races, say six out of 11, with about the same percentage return, but your overall **profit** should be higher because you bet more often," Dixon said.

If his system works, then...

...all our time at the track, for one thing. By selling it, we can make **money** without going to the track every day," Dixon said.

On the other hand, Dixon said...

...drive the odds down so low on the winners that no one could make any **money**.

?

8/3,K/15 (Item 3 from file: 647)  
DIALOG(R)File 647:CMP Computer Fulltext  
(c) 2004 CMP Media, LLC. All rts. reserv.

00560948 CMP ACCESSION NUMBER: EET19901224S0354

**Neural nets are off to the races**

R. COLIN JOHNSON

ELECTRONIC ENGINEERING TIMES, 1990, n 622, 19

PUBLICATION DATE: 901224

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: TECHNOLOGY

WORD COUNT: 709

Bamf president Richard Dixon said his brainchild returns a **profit** of 25 percent to 45 percent each betting day. The package, which is called Power...

...could affect whether or not a horse wins a race, and entered them in a **database** along with the information on 200 races. The **neural network** was then set the task of learning which of these factors determine the horses that...

...system has learned those characteristics, you enter the parameters for a new race and the **neural network** picks the horses to **bet**.

The parameters Dixon uses include past race results and fractional times-that is, the times...

...races, say six out of 11, with about the same percentage return, but your overall **profit** should be higher because you bet more often," Dixon said.

If his system works, then...

...all our time at the track, for one thing. By selling it, we can make **money** without going to the track every day," Dixon said.

On the other hand, Dixon said...

...drive the odds down so low on the winners that no one could make any **money**.

?

?ds

Set	Items	Description
S1	7	AU='CARDO, A.'

?show files

File 35:Dissertation Abs Online 1861-2004/Sep

(c) 2004 ProQuest Info&Learning

File 65:Inside Conferences 1993-2004/Oct W4

(c) 2004 BLDSC all rts. reserv.

File 148:Gale Group Trade & Industry DB 1976-2004/Oct 15

(c)2004 The Gale Group

File 2:INSPEC 1969-2004/Oct W4

(c) 2004 Institution of Electrical Engineers

File 16:Gale Group PROMT(R) 1990-2004/Nov 01

(c) 2004 The Gale Group

File 636:Gale Group Newsletter DB(TM) 1987-2004/Nov 01

(c) 2004 The Gale Group

File 624:McGraw-Hill Publications 1985-2004/Oct 28

(c) 2004 McGraw-Hill Co. Inc

File 275:Gale Group Computer DB(TM) 1983-2004/Nov 01

(c) 2004 The Gale Group

File 647:CMP Computer Fulltext 1988-2004/Oct W3

(c) 2004 CMP Media, LLC

File 9:Business & Industry(R) Jul/1994-2004/Oct 27

(c) 2004 The Gale Group

File 610:Business Wire 1999-2004/Oct 27

(c) 2004 Business Wire.

File 810:Business Wire 1986-1999/Feb 28

(c) 1999 Business Wire

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?t s2/5/1-4

2/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

015742583 \*\*Image available\*\*

WPI Acc No: 2003-804784/200375

XRPX Acc No: N03-645173

**Spatial data file validating method for business organizations, involves retrieving successive tests in memory in predefined order and applying to file and generating tests having criteria not satisfied partly on test type**

Patent Assignee: COMPUTIGM INT LTD (COMP-N)

Inventor: **CARDNO A J**

Number of Countries: 103 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200388149	A1	20031023	WO 2003NZ68	A	20030417	200375 B
AU 2003222528	A1	20031027	AU 2003222528	A	20030417	200436

Priority Applications (No Type Date): NZ 518431 A 20020417

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 200388149	A1	E	30 G06T-009/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

AU 2003222528	A1		G06T-009/00	Based on patent WO 200388149
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Abstract (Basic): WO 200388149 A1

NOVELTY - The method involves maintaining tests in computer memory with one of the tests having an associated test type and set of criteria. Successive tests are retrieved from the memory in a predefined order and the tests are applied to the spatial data file. A list of those tests are generated having criteria not satisfied based partly on the test type.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a spatial data file validation system.

USE - Used for business organizations in electronic file formats e.g. some **casinos** used AutoCAD file formats to store electronic maps of their slot machine and table layouts and other software applications.

ADVANTAGE - The method enables the tests to be applied in a predefined order by reducing processing time in some cases and also the number of tests to be performed.

DESCRIPTION OF DRAWING(S) - The drawing shows a user interface component for performing file validation.

pp; 30 DwgNo 6/8

Title Terms: SPACE; DATA; FILE; VALID; METHOD; BUSINESS; RETRIEVAL;

SUCCESSION; TEST; MEMORY; PREDEFINED; ORDER; APPLY; FILE; GENERATE; TEST; CRITERIA; SATISFY; TEST; TYPE

Derwent Class: T01

International Patent Class (Main): G06T-009/00

International Patent Class (Additional): G06F-011/36; G06F-017/50

File Segment: EPI

2/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015124075 \*\*Image available\*\*

WPI Acc No: 2003-184598/200318

XRPX Acc No: N03-145402

**Data visualization system for identifying patterns in time-variant data  
e.g. stock exchange trading data, to identify patterns in price movements  
over time to predict short-term price movements**

Patent Assignee: COMPUDIGM INT LTD (COMP-N)

Inventor: BEARD R T; **CARDNO A J** ; MULGAN N J

Number of Countries: 099 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200312713	A1	20030213	WO 2002NZ138	A	20020730	200318 B
AU 2002328050	A1	20030217	AU 2002328050	A	20020730	200452

Priority Applications (No Type Date): NZ 519832 A 20020627; NZ 513265 A 20010730; NZ 516382 A 20011224

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 200312713	A1	E	18 G06F-017/60	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

AU 2002328050	A1		G06F-017/60	Based on patent WO 200312713
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Abstract (Basic): WO 200312713 A1

NOVELTY - A two-dimensional representation including vector representations is generated from time-variant data and displayed.

DETAILED DESCRIPTION - The data visualization system includes time-variant data stored in computer memory. A time series analysis component creates one or more vectors from time-variant data, and a self-organizing map component generates and displays a two-dimensional representation including one or more vector representations. A contour generator generates and displays one or more contour lines around each vector representation.

An INDEPENDENT CLAIM is included for a method of data visualization.

USE - Identifying patterns in time-variant multivariate data e.g. stock exchange-trading data in financial markets e.g. identifying patterns in price movements over time to **predict** short term price movements over time.

ADVANTAGE - Use of contouring enables a viewer to rapidly determine patterns which precede consistent price movements.

DESCRIPTION OF DRAWING(S) - The drawing shows the operation of the time series analysis component of the system of the invention.

Raw trading data (200)

Variable prices (210)

Volume (220)

Spread (230)

Snapshot (240)

Trading history vector (250)

pp; 18 DwgNo 2/6

Title Terms: DATA; SYSTEM; IDENTIFY; PATTERN; TIME; VARIANT; DATA; STOCK; EXCHANGE; TRADE; DATA; IDENTIFY; PATTERN; PRICE; MOVEMENT; TIME; **PREDICT**; SHORT; TERM; PRICE; MOVEMENT

Derwent Class: T01

International Patent Class (Main): G06F-017/60

File Segment: EPI

2/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014037072 \*\*Image available\*\*

WPI Acc No: 2001-521285/200157

XRPX Acc No: N01-386205

**Customer and merchant interaction system for predicting future revenue from game machines in casino , retrieves prediction data representing future interactions between customers and merchants**

Patent Assignee: COMPUDIGM INT LTD (COMP-N)

Inventor: **CARDNO A J**

Number of Countries: 095 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200104808	A1	20010118	WO 2000NZ125	A	20000713	200157 B
AU 200063247	A	20010130	AU 200063247	A	20000713	200157
EP 1212716	A1	20020612	EP 2000950099	A	20000713	200239
			WO 2000NZ125	A	20000713	

Priority Applications (No Type Date): NZ 336743 A 19990713

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200104808 A1 E 31 G06F-017/60

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200063247 A G06F-017/60 Based on patent WO 200104808

EP 1212716 A1 E G06F-017/60 Based on patent WO 200104808

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200104808 A1

NOVELTY - A retrieval unit activates a neural network (200) to retrieve interaction data from the data memory. The interaction data represents interactions between customer and merchants. Display unit (214) displays the **predicted** data representation. The interaction data from memory and **predicted** data are compared and based on compared result, neural network is adjusted.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Neural network training system;
- (b) Interaction **prediction** computer program;
- (c) Neural network training computer program;
- (d) Method of **predicting** interactions between customers and merchants;
- (e) Method of training neural network;
- (f) Neural network

USE - To identify information hidden in collective data from game machines in **casino** , for **predicting** future revenue from game machines.

ADVANTAGE - Each machine is provided with electronic meters to know whether the machine is in use, the money placed in the machine etc so the data is transferred in real time. The interaction data is stored in a number of records in a relational data base and migration is done easily.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a neural network.

Neural network (200)

Display unit (214)

pp; 31 DwgNo 4/7

Title Terms: CUSTOMER; MERCHANT; INTERACT; SYSTEM; **PREDICT** ; FUTURE; REVENUE; GAME; MACHINE; **CASINO** ; RETRIEVAL; **PREDICT** ; DATA; REPRESENT; FUTURE; INTERACT; CUSTOMER; MERCHANT

Derwent Class: T01; W04

International Patent Class (Main): G06F-017/60

File Segment: EPI



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013896580 \*\*Image available\*\*

WPI Acc No: 2001-380793/200140

XRPX Acc No: N01-279206

**Data visualization system for business and sports applications, displays finite set of data values as contours around data points**

Patent Assignee: COMPUDIGM INT LTD (COMP-N)

Inventor: **CARDNO A J** ; CARDNO P A; KAUFMANN N; MAHN A; MULGAN N J; RYAN P N; SOPER C I

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200077682	A1	20001221	WO 2000NZ99	A	20000614	200140 B
AU 200057175	A	20010102	AU 200057175	A	20000614	200140
EP 1208472	A1	20020529	EP 2000942572	A	20000614	200243
			WO 2000NZ99	A	20000614	
NZ 516450	A	20040326	NZ 516450	A	20000614	200425
			WO 2000NZ99	A	20000614	

Priority Applications (No Type Date): NZ 504589 A 20000517; NZ 336257 A 19990614; NZ 503480 A 20000320; NZ 504315 A 20000503

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200077682 A1 E 68 G06F-017/30

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200057175 A G06F-017/30 Based on patent WO 200077682

EP 1208472 A1 E G06F-017/30 Based on patent WO 200077682

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SI

NZ 516450 A G06F-017/30 Based on patent WO 200077682

Abstract (Basic): WO 200077682 A1

NOVELTY - A data value memory stores a finite set of data values. A display displays the data values as contours around data points, where each data value is centered on a data point.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Data visualization method;

(b) Data visualization computer program

USE - For use in sports analysis and other business applications like purchase of goods and services, on-line operation of **casino**, gambling or other **gaming** facility, transport and delivery, financial or banking services, reservation of products or services such as car parking, boat mooring, secondary and tertiary course allocation, seminar event or course booking and plane, boat and train bookings, wagering and betting services, etc.

ADVANTAGE - The hidden information in the collected data is easily identified and used by the contoured representation of the data values. The unexpected information is also obtained, as the hypothesis and its technical formula are not needed in the contoured representation of the data values.

DESCRIPTION OF DRAWING(S) - The figure shows the contoured representation of the data values in a data visualization system.

pp; 68 DwgNo 3/40

Title Terms: DATA; SYSTEM; BUSINESS; SPORTS; APPLY; DISPLAY; FINITE; SET; DATA; VALUE; CONTOUR; DATA; POINT

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-017/60

File Segment: EPI

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2/5/4 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
(c) 2004 Inst for Sci Info. All rts. reserv.

04274443 Genuine Article#: RT606 Number of References: 30

**Title: THE HELMHOLTZ MACHINE**

Author(s): DAYAN P; HINTON GE; NEAL RM; ZEMEL RS

Corporate Source: UNIV TORONTO, DEPT COMP SCI, 6 KINGS COLL RD/TORONTO/ON M5S  
1A4/CANADA/; SALK INST, CNL/SAN DIEGO//CA/92186

Journal: NEURAL COMPUTATION, 1995, V7, N5 (SEP), P889-904

ISSN: 0899-7667

Language: ENGLISH Document Type: ARTICLE

Geographic Location: CANADA; USA

Subfile: SciSearch; CC LIFE--Current Contents, Life Sciences; CC ENGI--  
Current Contents, Engineering, Technology & Applied Sciences

Journal Subject Category: COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE;  
NEUROSCIENCES

Abstract: Discovering the structure inherent in a set of patterns is a fundamental aim of statistical inference or learning. One fruitful approach is to build a parameterized stochastic generative model, independent draws from which are likely to produce the patterns. For all but the simplest generative models, each pattern can be generated in exponentially many ways. It is thus intractable to adjust the parameters to maximize the probability of the observed patterns. We describe a way of finessing this combinatorial explosion by maximizing an easily computed lower bound on the probability of the observations. Our method can be viewed as a form of hierarchical self-supervised learning that may relate to the function of bottom-up and top-down cortical processing pathways.

Identifiers--Keywords Plus: ALGORITHM; NETWORKS

Research Fronts: 93-0176 001 ( **NEURAL NETWORKS** ; LEARNING FINITE-STATE  
**MACHINES** ; DYNAMIC NEUROMUSCULAR CONTROL MODEL)

93-0570 001 (BELIEF NETWORKS; UNCERTAINTY FOR KNOWLEDGE BASED SYSTEMS;  
UTILITY OF **GAMBLING** )

93-3742 001 ( **NEURAL NETWORKS** ; UNSUPERVISED LEARNING RULE; PARTIAL  
OPTICAL IMPLEMENTATION OF ADAPTIVE RESONANCE THEORY-2)

93-4781 001 (MISSING DATA; EM ALGORITHM; MIXTURE MODEL; ESTIMATING  
LATENT DISTRIBUTIONS; NONIGNORABLE NONRESPONSE)

93-5440 001 (IIR ADAPTIVE SYSTEMS; LMS ALGORITHM; SINGLE-LAYER NEURAL  
NETWORKS; CLASSIFICATION PERFORMANCE)

Cited References:

- ACKLEY DH, 1985, V9, P147, COGNITIVE SCI  
BARTO AG, 1985, V15, P360, IEEE T SYST MAN CYB  
BECKER S, 1992, V355, P161, NATURE  
CARPENTER GA, 1987, V37, P54, COMPUT VISION GRAPH  
DAYAN P, 1995, V7, P565, NEURAL COMPUT  
DEMPSTER AP, 1977, V39, P1, J ROY STAT SOC B MET  
GRENANDER U, 1976, LECTURES PATTERN THE  
HINTON GE, 1994, V6, P3, ADV NEURAL INFORMATI  
HINTON GE, 1986, V1, P282, PARALLEL DISTRIBUTED  
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**Title: STATLOG - COMPARISON OF CLASSIFICATION ALGORITHMS ON LARGE  
REAL-WORLD PROBLEMS**

Author(s): KING RD; FENG C; SUTHERLAND A

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Abstract: This paper describes work in the StatLog project comparing  
classification algorithms on large real-world problems. The algorithms  
compared were from symbolic learning (CART, C4.5, NewID, AC(2), ITrule,  
Cal5, CN2), statistics (Naive Bayes, k-nearest neighbor, kernel  
density, linear discriminant, quadratic discriminant, logistic  
regression, projection pursuit, Bayesian networks), and neural networks  
(backpropagation, radial basis functions). Twelve datasets were  
used: five from image analysis, three from medicine, and two each from  
engineering and finance. We found that which algorithm performed best  
depended critically on the data set investigated. We therefore  
developed a set of data set descriptors to help decide which algorithms  
are suited to particular data sets. For example, data sets with extreme  
distributions (skew > 1 and kurtosis > 7) and with many  
binary/categorical attributes (> 38%) tend to favor symbolic learning  
algorithms. We suggest how classification algorithms can be extended in  
a number of directions.

Identifiers--KeyWords Plus: LEARNING ALGORITHMS

Research Fronts: 93-0570 002 (BELIEF NETWORKS; UNCERTAINTY FOR KNOWLEDGE  
BASED SYSTEMS; UTILITY OF GAMBLING )

93-1307 002 (RECURRENT RANDOM NEURAL NETWORK ; CONNECTIONIST MODEL;  
OPTICAL LEARNING NEUROCHIP)

93-3174 002 (DECISION TREE CLASSIFIERS; NEURAL NETWORKS ;  
CONNECTIONIST INDUCTIVE INFERENCE MODEL; MACHINE LEARNING;  
IDENTIFYING FINANCIAL DISTRESS; VECTOR QUANTIZATION)

93-4747 002 ( MACHINE LEARNING; KNOWLEDGE ACQUISITION; INDUCTIVE  
INFERENCE ALGORITHMS)

93-3175 001 (PROJECTION PURSUIT REGRESSION; MULTIVARIATE SPLINE  
TRANSFORMATIONS; NEURAL NETWORKS; FUNCTION APPROXIMATION; ROBUST  
PRINCIPAL COMPONENT ANALYSIS)

93-6001 001 (NEURAL NETWORKS; RAPID BACKPROPAGATION LEARNING  
ALGORITHMS; EVIDENCE-BASED CLASSIFICATION SYSTEMS)

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DIALOG(R) File 349:PCT FULLTEXT

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**INTERACTION PREDICTION SYSTEM AND METHOD**  
**SYSTEME ET PROCEDE DE PREDICTION D'INTERACTION**

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Detailed Description

Claims

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**English Abstract**

A neural network (200) is trained on an interaction database of data representing interactions between customers and merchants. The neural network (200) can then be used to predict future interactions between customers and merchants, and display means (214) are used to display a representation of the predicted interaction data. In one embodiment the merchants operate a casino or gaming venue including one or more gaming machines, and the interaction database includes data (208) representing customers' interactions with the one or more gaming machines.

**French Abstract**

L'invention concerne un reseau neuronal (200) dont l'apprentissage est execute sur une base de donnees d'interactions dont les donnees representent des interactions entre des clients et des marchands. On peut utiliser ce reseau neuronal (200) pour predire de futures interactions entre clients et marchands, de meme que l'on peut utiliser des moyens d'affichage (214) pour afficher une representation des donnees d'interactions predites. Dans un mode de realisation de l'invention, le (les) marchand(s) sont proprietaires d'un casino ou lieu de jeux et paris, comprenant au moins un appareil de jeux de hasard, la base de donnees d'interactions comprenant des donnees (208) representant les interactions des clients avec au moins l'un de ces appareils de jeux de hasard.

**Legal Status (Type, Date, Text)**

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